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VECTOR BIOLOGY AND CONTROL PROJECT

MID-TERM FORMATIVE EVALUATION

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TABLE OF CONTENTS

Page

EXECUTIVE SUMMARY i

EVALUATION REPORT
I. INTRODUCTION 1
II. EVALUATION APPROACH 1

III. PROJECT DESIGN AND MANAGEMENT
A. General Issues 3
B. Organization 4
C. Activities and Resource Allocations 6
D. Regional Bureaus and Missions Response 8

IV. COMPONENTS OF PROJECT ACTIVITIES
A. Technical Assistance 9
B. Institutional and Human Resource Development 10
C. Information Management and Technical Information Services 11

V. SUMMARY OF MAJOR RECOMMENDATIONS
A. VBC 13
B. A.I.D. and VBC 14
C. A.I.D 15

ANNEXES
1. The Centers for Disease Control PASA 16
2. The VBC Relationship with Universities and Research Institutions 18
3. Review of Selected Technical Assistance Activities 20
4. Social and Behavioral Aspects of Vector Control 22
5. Institutional and Human Resource Development Activities 27
6. Analysis of the Information System and Services 37

APPENDIX 1
Tables
1. Summary of VBC Activities by Category 47
2. Vector Biology & Control Project 48
3. Master List of Projects 52
4. Vector Biology & Control Project Activities (by country) 61
5. Buy-in/Central Funds 62
Figure 1 - Vector Biology & Control Pasa Expenditures 63

APPENDIX 2
A. Evaluation Team 64
B. Terms of Reference 65
C. Contacts 72
D. Documents Reviewed 76

EXECUTIVE SUMMARY

Agency for International Development established the Vector Biology and Control Project (VBC) in 1985. The project's first five-year centrally funded contract was awarded to Medical Service Corporation International (MSCI) of Arlington, Virginia. The total estimated budget for the performance of this contract is $8,609,230.

This evaluation of the VBC, which represents the midterm assessment called for in the project authorization document, examined the accomplishments, effectiveness and appropriateness of the various aspects of the project. The evaluation was conducted primarily through interviews and reviews of VBC operations and reports. No field trips were called for in the evaluation contract; field comments were basically gathered through cable survey to which 17 missions replied. The survey initiated by A.I.D.'s Office of Health, Bureau for Science and Technology (S&T/H).

The VBC is a service-oriented technical assistance project intended to establish and enhance effective and cost-efficient vector-borne disease control programs through the development of new strategies and methodologies designed to control vector-borne diseases; the use of new or improved vector control technologies, methods and tools; the increase of skill levels of vector-borne disease control personnel in developing countries; the strengthening of regional training centers and research institutions; and the dissemination of current information and data related to vector-borne disease control.

VBC implementation is managed by MSCI's project team. Monitoring and oversight responsibilities are handled by S&T/H. Requests for project assistance from either regional bureaus or missions are channeled through the S&T/H project officer.

The VBC project has filled a need for expert assistance in the control and management of vector-borne diseases through technical assistance, institution and human resource development, information management and technical information service activities.

At this point, almost all end-of-project activity projections have been reached:

- Countries assisted: 32 (projected: 40-50)
- Professionals trained: 265 (projected: 100-200)
- New control tools tested: 10 (projected: 10-15)

In addition, an impressive vector control information center has been established.

VBC activities, staff and consultants received high marks from regional bureaus and missions for responsiveness and quality of assistance provided.

The success of efforts to identify needs and build interest in the project is evidenced by the high level of buy-in activities: approximately 40 per cent of VBC activity costs have been met through mission buy-ins. The project funding ceiling has been drawn down at a faster rate than anticipated at the Project's inception, an indication that the funding level may be inadequate to meet assistance needs up to the Project's Project Anticipated Completion Date (PACD).

The general conclusion of the evaluation is that project management and implementation have been successful. Solutions to the problems which were identified are well within reach. The focus of many of the recommendations is strengthening of activities or operations rather than rectification of errors.

Major recommendations include:

- An assessment of assistance needs should be carried out with the regional bureaus and missions in order to project future needs and to determine if the project will require increased funding.

- A comprehensive strategy for integrating vector control into health sector programs should be developed. Strategies should also be developed in the specific areas of information dissemination and institutional and human resource development.

- A better balance should be sought between initiating activities (proactive) and responding to requests for assistance (reactive).

- Collaboration with international and regional organizations and national institutions should be continued. Linkages with the university and research communities should be strengthened.

- The level of project capabilities in the areas of design, planning and human resource development should be increased.

Specific recommendations on the enhancement of project activities in the areas of training, operations research, information services and social and behavioral aspects of vector control are presented in the evaluation report. In addition to technical and service issues, the report also addresses specific points on project design, management and resource allocations.

EVALUATION REPORT

I. INTRODUCTION

Within the context of A.I.D.'s priority support to child survival and maternal and child health programs, it is recognized that vector-borne diseases pose a grave threat to millions of children as well as their parents. Malaria, arboviruses (Dengue and Japanese encephalitis), trypanosome, Guinea worm and various rickettsial and bacterial organisms are endemic throughout much of the developing world. Given the lack of vaccines and safe, effective drugs, control of vectors remains the most realistic approach to attacking transmission and stopping the spread of vector-borne diseases. The traditional approach to vector control has been through vertical programs which emphasize chemicals and pesticides. There has been an increasing realization that the goal of long-term, sustainable control and management of vector-borne diseases cannot be met by such programs; control is more likely to be achieved through integrated programs which fully incorporate vector biology and ecology and disease epidemiology.

Cognizant of these problems, A.I.D. established the VBC in 1985. The VBC is a service-oriented technical assistance project aimed at improving the design, implementation, monitoring and evaluation of vector control programs through the use of new methods, tools and technologies. The Project's first five-year centrally funded contract was awarded to Medical Service Corporation International (MSCI) of Arlington, Virginia. The total estimated budget for the performance of this contract is $8,609,230.

II. EVALUATION APPROACH

The purpose of the evaluation was to assess the appropriateness, accomplishments and effectiveness of various aspects of the VBC project at the five-year contract's mid-point.

The evaluation team consisted of consultants in parasitology (John Cross), vector biology (Richard Baker), information management (Gail Kostinko), and human resources and training (Patricia Rosenfield). Two A.I.D. technical officers were also members of the evaluation team (Mary Lou Higgins, S&T/FENR, and Patricia Sue Gibson, ANE/TR/HPN).

The evaluation team was asked to consider three broad issues: Project design and management, resource allocations, and technical and service issues. (Terms of reference for the evaluation are included in Appendix 2.)

The evaluation was conducted during the period May 24 - June 16, 1988. It began with a two-day planning meeting at the offices of The Pragma Corporation, the evaluation contractor. These sessions were led by a professional facilitator who assisted in the development of an action plan. A.I.D. and VBC project staff briefed the team on the history and evolution of the project.

The evaluation was conducted primarily through:

- telephone and personal interviews of A.I.D. regional bureau and mission staff
- discussions with VBC core staff and project subcontractors
- a site visit to the CDC
- telephone interviews with representatives of international organizations
- review of mission responses to an evaluation questionnaire which had been circulated by the S&T/H project officer; (17 missions responded to the questionnaire)
- review of project documents.

  (Persons contacted and documents reviewed are listed in Appendix 2.)

The evaluation was constrained by the following factors:

- The lack of provision for overseas travel limited the team's ability to obtain mission perceptions of the project
- The level of effort allowed in the evaluation contract for the information management and human resources specialists hampered analysis of these aspects of the project
- Lack of precise definition of the wide variety of project activities complicated the evaluation
- Analysis of selected activities was difficult because materials provided were confusing to the evaluators and the evolution of various activities was not clear.

III. PROJECT DESIGN AND MANAGEMENT

III-A. GENERAL PROJECT DESIGN AND MANAGEMENT

The VBC project was designed to assist missions and host countries in their efforts to improve the health status of populations exposed to vector-borne diseases. In order to support the establishment of effective and cost-efficient vector-borne disease control programs and enhance these aspects of existing programs, the VBC project was intended to:

- develop new strategies and methodologies designed to control vector-borne diseases
- increase the skill levels of vector-borne disease control personnel in developing countries
- institute use of new or improved technologies, methods and tools for control of vector-borne diseases
- provide assistance to improve and strengthen regional training centers and research institutions
- disseminate current information and data related to vector-borne disease control on a world-wide basis.

VBC implementation is managed by MSCI's project team. Monitoring and oversight responsibilities are in S&T/H. Requests for project assistance from either regional bureaus or missions are channeled through the S&T/H project officer.

Findings and Recommendations

The project was found to be appropriately designed; the log-frame assumptions appear to be valid. Project objectives are realistic and obtainable.

The project team has established a productive relationship and effective technical interaction with S&T/H. However, it appears that the information flow between S&T/H and VBC could be strengthened to enhance overall project management.

Certain aspects of project monitoring and management may have suffered from the status change of the S&T/H project officer position from direct-hire to contract employee, a change which was instituted after the departure of the initial project officer. There is a perception that a contract employee lacks long-term perspective; interaction is therefore inhibited between this type of project officer and the regional bureaus and missions. A contract employee is also considered less likely to understand the constraints and operations of the Agency and

therefore less able to effectively identify windows of opportunity. S&T/H should reconsider the status of the project officer position and give strong consideration to returning the post to direct-hire status.

III-B. ORGANIZATION

Administrative support to the VBC project is provided by MSCI.

The project is staffed with the following core positions: Director, senior technical officer, vector biologist, biomedical computer specialist, information specialist, operations manager, and editor. Support staff consists of a secretary, receptionist and data entry clerk.

The project subcontractors are Tulane University, Harvard University and Johns Hopkins University.

S&T/H Division of Vector Biology and Control has established a Participating Agency Service Agreement (PASA) with the Centers Disease Control (CDC) as well as a collaborative agreement with the World Health Organization (WHO). Collaborative activities have also been carried out with the Pan American Health Organization (PAHO), A.I.D.'s WASH (Water and Sanitation for Health) project, and, to a lesser extent, other agencies.

Two project advisory groups have been established. The TAC (Technical Advisory Committee), which meets twice a year, is comprised of the project team, the subcontractors, S&T/H, the CDC and WHO. The purpose of the TAC is to provide guidance on project activity planning and coordination. The TAG (Technical Advisory Group), which meets annually, is intended to coordinate interagency collaboration and draw on a wide pool of expertise to address specific issues.

Consultants are used for many project activities. A roster of 850 consultants has been developed. Thus far, the project has used the services of 110 of the registered consultants.

Findings and Recommendations

Administrative Support:

The level and quality of support MSCI has provided to the Project is impressive and commendable.

Project Staff:

The core staff of the VBC project is made up of highly competent professionals who appear to work well together as an effective project team.

The staff's increasing level of involvement in managing project activities has reduced opportunities for them to carry out field work. This suggests a need for an additional staff member.

The Project would benefit from strengthened staff capabilities in the areas of design and planning as well as human resource development.

In the case of information services, if activities are expanded, the addition of at least a part-time information assistant should be considered.

Subcontractors:

As originally envisioned, the project subcontractors were to provide a source of highly skilled professional experts as well as state-of-the-art information and technology in vector-borne disease control. Thus far this input has been less than expected and the role of the subcontractors is only now evolving. With the exception of participation in the semiannual TAC managements the subcontractors have, for the most part, been involved in the project on an ad hoc basis. Until recently, there has been little concerted effort to draw on their institutional strengths to develop long-term relationships with institutions in developing countries. Recent establishment of collaborative programs in Kenya and Tanzania are promising. However, a stronger definition of the role of the subcontractors in the project is long overdue. This input should be strengthened as soon as possible.

CDC:

There appears to be general satisfaction with the coordination and results of PASA activities.

S&T/H and others have expressed concern that too much attention is being given to Guinea worm. However, the allocation for Guinea worm activities was found to be justifiable.

While the PASA has worked well to date, priority areas for the CDC involvement during the next two years of the project should be defined and agreed upon.

(For a detailed analysis of the CDC PASA activities, see Annex 1.)

Advisory Groups:

Review of the minutes of the TAC and TAG meetings raised questions concerning the value of these advisory groups. Little evidence was found of input to strategy development or long-term

planning. Also, the limited university representation in the TAG was considered a deficiency as was the lack of female or minority representation in either group.

The functions and compositions of these groups should be reassessed. Consideration should be given to expanding the TAC to include representation from A.I.D. regional bureaus. The TAG should include representatives from the broader university community rather than just the three project subcontractors.

Consultants:

Consultants contracted for VBC activities have generally been competent and experienced professionals who have satisfactorily accomplished their assignments.

In a few cases where consultants were pre-selected by missions or host country governments, they were chosen to evaluate long standing spray-oriented programs or to design amendments to some. In the future, requests for specific consultants should be questioned if the Project staff judges their skills to be inappropriate for a particular activity.

Increased use of consultants from the following groups should be considered:

- The international research and university community, particularly developing country specialists who are expert in practical, innovative approaches to vector control

- The U.S. university community; in addition to faculty and researchers, graduate students might assist in certain activities when appropriate and possible

- The U.S. Armed Forces research community, particularly those stationed in or near sites of project activities.

(For detailed comments on the relationship of the VBC project to university and research institutions, see Annex 2.)

III-C. ACTIVITIES AND RESOURCE ALLOCATIONS

The VBC project has filled a need for expert assistance in the control and management of vector-borne diseases through technical assistance, institution and human resource development, information management and technical information service activities.

At this point, almost all end-of-project activity projections have been reached:

- Countries assisted: 32 (projected: 40-50)
- Professionals trained: 265 (projected: 100-200)
- New control tools tested: 10 (projected: 10-15)

In addition, an impressive vector control information center has been established.

To date, the project has responded to 99 requests for assistance (reactive activities); initiated 31 activities (proactive activities); and participated in 30 collaborative activities (Table 1).

Of these, 19 activities have been carried out for AFR, 44 for LAC and 45 for ANE (Table 2).

The success of efforts to identify needs and build interest in the project is evidenced by the high level of buy-in activities. One-third of TA and training activities carried out to date have been funded by mission buy-ins. Five countries (El Salvador, Ecuador, Egypt, Burma and Sri Lanka) have provided 85 per cent of the dollar value of the buy-ins. A regional breakdown of the total 32 buy-in activities shows three from AFR; 13 from LAC; and 16 from ANE. Approximately 40 per cent of VBC activity costs have been met through mission buy-ins (Table 3).

Findings and Recommendations

The review of Project activities suggests that proactive and collaborative activities could be expanded. Also, more activities should be encouraged within the Africa bureau and missions by undertaking a campaign to inform and education bureau and mission staffs as to services and materials available through the VBC project.

Buy-ins for TA activities far outnumber all others. An attempt should be made to increase buy-ins in other areas, particularly training as has been the case in Burma, Bolivia, Egypt and Sri Lanka.

The Project funding ceiling has been drawn down at a rate faster than anticipated at the inception of the project. If current spending rates are maintained, the funding ceiling will be reached before the PACD of the current contract. This suggests that the life-of-project funding ceiling may be inadequate to meet assistance needs. In designing Phase II of the project, a careful needs assessment should be carried out with the regional bureaus and missions.

The assessment should identify problem areas to be addressed and level of activities required. This assessment should determine if the project requires increased funding.

III-D. REGIONAL BUREAU AND MISSION RESPONSES TO THE PROJECT

VBC activities, staff and consultants received generally high marks from regional bureaus and missions for responsiveness, quality of assistance and reports. In a few cases, missions expressed concern over delay in receiving final reports. This appears to be a communications problem which can be easily remedied if missions are reminded of deadlines for submission of comments required before issuing final reports. In all cases, substantive draft reports have been submitted to missions before departure from the project activity site.

Responsibility for the follow-up of activities should be explored in depth with the regional bureaus and missions.

Certain missions do not consider vector control a high priority and have not utilized VBC services. In order to sensitize missions to the importance of integrated vector control in health programs, consideration should be given to having appropriate VBC staff attend regional meetings of A.I.D. health officers.

A comprehensive S&T/H strategy for integrating vector control into health programs appears to be lacking. Using the project's successful activities as a basis, a serious effort should be made to identify focal countries and strategies for integrating vector control into health sector programs. Further, efforts should be reinforced with regional bureaus in developing long-term planning for vector control and incorporating this planning into overall health sector goals in country and regional development strategies.

The status of the project in the S&T/H Action Plan is a questionable representation of regional bureau priorities. S&T/H ranks the Project 28th out of a total of 34. In contrast, the LAC bureau ranked the Project second or third in its S&T portfolio. This issue should be explored in greater depth by S&T/H and the regional bureaus.

Concern was expressed that regional bureaus and missions are unaware that the Project is reaching its funding ceiling. S&T/H should provide the regional bureaus and missions with information on this subject.

IV. COMPONENTS OF PROJECT ACTIVITIES

IV-A. TECHNICAL ASSISTANCE (TA)

To date, TA has comprised 57 per cent of all VBC activities, accounting for 67 per cent of project expenditures (Table 3).

TA activities which have promoted the project's goals have emphasized:

- vector biology (vectorial capacity and survivorship; vector competence, incrimination, taxonomy; sampling; surveillance; definition of population dynamics; resting, feeding, egg laying and mating behavior; ecology of egg, larval and adult stages)

- environmental management (denying breeding sites by modifying agricultural practices, irrigation and waste water systems)

- biological control (role of predators, pathogens, parasites and competitors in vector populations)

- personal protection and culture (impregnated bed nets, curtains, screens, repellents; human behavior and community participation)

- data management (data collection and computerized processing and management)

Findings and Recommendations

Technical assistance is defined very broadly. Activities as diverse as emergency response, long-term strategy development and operations research are classified as TA. Also included in this category are mission TA needs assessments. There is also an overlap in definition between many ID/HRD activities and TA. Given the wide variety of project activities, consideration should be given to exercising more precision in defining activities. Such definition would facilitate overall project monitoring, management and assessment.

A few TA activities have advocated reliance on traditional residual spray programs. Use of the VBC as a vehicle for such activities is questionable. Where residual spraying, larviciding and molluscicing continue to be emphasized, there should be, in most cases, adequate in-country expertise to carry out these programs.

In operations research, there has been a focus on areas critical for effective pesticide management. Operations research in vector biology and ecology should be expanded with emphasis on community approaches.

Through TA activities, the VBC has collaborated with a number of international and regional organizations and national institutions; staff and consultants have worked well with host country counterparts. However, in some TA activities there could have been greater interaction with regional and international organizations. Efforts to work with such organizations and to identify the potential for collaboration should be reinforced.

Initial efforts in the area of social and behavioral aspects of vector control are commendable. These efforts should be expanded and include closer collaboration with local social scientists and economists who are in the best position to provide guidance on issues such as sustainability and community participation.

(For evaluative reviews of selected TA activities, see Annex 3; for a detailed analysis of social and behavioral aspects of vector control, see Annex 4.)

IV-B. INSTITUTIONAL AND HUMAN RESOURCE DEVELOPMENT (ID/HRD)

A total of 28 ID/HRD activities have been carried out to date. Of these, 3 have been in AFR, 5 in LAC and 15 in ANE. It should be noted that many activities classified as TA or information include substantial elements of institutional and human resource development. These numbers are therefore underestimates of the actual amount of ID/HRD activity.

Findings and Recommendations

Of the activities reviewed, the HRD elements were generally impressive. Activities were responsive to national needs mostly collaborative in organization and implementation and planned and received well.

The VBC long range strategy should be consulted in the development of country-specific or institution-specific ID/HRD activities. This deficiency limits the likelihood of sustainability.

Expanding ID/HRD efforts in the context of technical assistance activities merits serious attention particularly because this is implicitly occurring in many instances. More explicit planning and systematic effort would enhance the complementarity of

technical assistance and ID/HRD and strengthen the impact of this component of the project. To that end, the following actions are recommended:

- Develop guidelines for ID/HRD activities in order to ensure that issues of need, sustainability and follow-up are explicitly addressed for any in-country or regional project activity. These guidelines should be reviewed by both ID/HRD and vector biology and control experts. They might be reviewed by A.I.D. health officers as well as representatives of international organizations.

- Strengthen collaboration with partners who can support follow-up programs; link more closely with national institutions and on-going in-country training programs.

- Continue and expand the emphasis on evaluations of courses by students, faculty and employers in order to inform development of new courses; give more attention to the development of appropriate evaluation techniques.

- Strengthen the content of training courses to include greater emphasis of innovative techniques and social and behavioral aspects of vector control.

(For a detailed analysis of ID/HRD activities, see Annex 5.)

IV-C. INFORMATION MANAGEMENT AND TECHNICAL INFORMATION SERVICES

The project's information system has been developed by project staff with the contracted assistance of the Control Data Corporation. The system's integrated database currently consists of the consultant roster, the bibliographic file and the project tracking file. A vector and disease data file is being developed. A file of projects related to vector control is planned.

Technical information services are provided through the project's information center, which has developed a collection of approximately 10,000 documents related to vector-borne disease control. The center also provides VBC staff with access to commercial databases and serves as the interface with organizations and institutions holding materials of interest to the project. In addition to providing information support services to VBC staff and consultants, the center has contributed to specific project activities, such as the Burma training course for which an acquisitions list of books and periodicals was compiled for the host-country institution. The center has collaborated with A.I.D.'s WASH project in the

establishment of a Guinea worm information network. It has also served as a practicum site for an information sciences graduate student (an Egyptian student funded by an IDRC scholarship).

Additionally, it has prepared resource documents on pesticides application ten disease specifics background papers, strategy statements and guidelines for environmental evaluation of vector-borne disease control projects.

Findings and Recommendations

Information System:

The Project computer system represents an impressive accomplishment. The approach taken in the design and development of the system was excellent and should be considered by A.I.D. as a model for other project system designs. The current high cost of system support and maintenance will drop dramatically once these functions have been transferred, as planned, to the in-house operating system. The time-table for this transfer should be strictly adhered to.

Development of the file of projects related to vector control should be carried out in collaboration with A.I.D.'s Center for Development Information and Evaluation which maintains an extensive database of current and retrospective project information.

The bibliographic component of the database should be more thoroughly reviewed for content. There has been a lack of selectivity guidelines for input to this component. Approximately 50 per cent of the citations in the bibliographic file are from scientific periodicals. Since most published scientific literature is cited in commercial databases, the cost-effectiveness of technical processing required to reference such materials in the in-house system should be reassessed. It would be more appropriate to place a greater emphasis on technical documents that are not available through commercial channels.

Technical Information Services:

Services have consisted almost exclusively of responses to requests, the number of which has been extremely low (153 requests over an 18-month period). The project information center is not fulfilling its mandate to provide services to all A.I.D. related institutions and individuals engaged in vector-borne disease control.

The center has not yet developed a comprehensive information dissemination strategy. The design of such a strategy should be undertaken as a priority activity . This strategy should:

- Clarify the audience for information services.

Particular attention should be paid to institutional linkages. Relationships which have been developed to date are almost exclusively in the developed world. This imbalance should be corrected. Relationships with regional and national institutions in developing countries can provide appropriate and efficient vehicles for information dissemination.

- Define dissemination techniques and materials.

The "VBC UPDATE" concept should be revived and revised. A selective-dissemination-of-information service, particularly on malaria, should be developed in collaboration with A.I.D.'s Center for Development Information and Evaluation which currently provides such services on several vector-borne diseases.

The integration of information services with VBC ID/HRD activities should be expanded. The contribution to the Burma training course, while positive, was of too limited a nature to be considered a model.

Consideration should be given to presenting the information center to missions as a potential practicum site for appropriate training candidates from other A.I.D. funded projects.

(For a detailed analysis of information management and services, see Annex 6.)

V. SUMMARY OF MAJOR RECOMMENDATIONS

V-A. VBC:

1. Proactive and collaborative activities should be expanded; more activities should be encouraged within the AFR regional bureau and missions; an attempt should be made to increase buy-ins for training activities; and activities should be well planned in order to facilitate overall project monitoring, management and assessment.

2. Operations research in vector biology and ecology should be expanded.

3. Collaboration with international and regional organizations and national institutions should be expanded.

4. More control specialists from developing countries should be involved in project activities; in-country social scientists should be consulted on efforts involving social and behavioral aspects of vector control.

5. Greater use should be made of consultants from the university and research communities in developing countries and the U.S.

6. ID/HRD activities should be expanded and developed more systematically; guidelines should be developed to address issues of follow-up and sustainability.

7. Training activities should expand linkages with ongoing in-country programs; techniques for the evaluation of training activities should be refined; training course content should place a greater emphasis on innovative techniques and the social and behavioral aspects of vector control.

8. An information dissemination strategy should be developed which clarifies the audience for information services and the dissemination techniques and materials to be used. An emphasis should be placed on establishing linkages with developing country institutions.

9. The cost-effectiveness of processing and referencing published scientific materials in the bibliographic file of the project database should be reassessed. A greater emphasis should be placed on technical documents not available through commercial channels.

10. The integration of information services with ID/HRD activities should be expanded.

V-B. A.I.D. and VBC:

1. The need for additional core staff should be carefully assessed; the assessment should be mindful of the need to strengthen staff capabilities in the areas of design, planning and human resource development; information services may also require additional assistance.

2. Action should be taken on defining the role of the subcontractors in the project and implementing activities derived from this definition.

3. Priority areas for the CDC involvement during the next two years of the project should be defined and agreed upon.

4. The information flow between S&T/H and VBC should be improved.

5. The functions and compositions of the technical advisory groups should be reassessed.

6. Roles and responsibilities for follow-up to project activities should be clarified with regional bureaus and missions.

7. Efforts to sensitize missions to the importance of integrated vector control in health programs should be reinforced.

8. The information center should be presented to missions as a potential practicum site for appropriate training candidates from other A.I.D. funded projects.

9. A comprehensive strategy for integrating vector control into health programs should be developed. Using the Project's successful activities as a basis, focal countries and strategies for integrating vector control into health sector programs should be identified. Efforts should be reinforced with regional bureaus in developing long-term planning for vector control and incorporating this planning into overall health sector goals in country and regional development strategies.

V-C. A.I.D.:

1. S&T/H should reassess the status of the project officer position and give strong consideration to returning the post to a technically qualified direct-hire status.

2. A careful needs assessment should be carried out with the regional bureaus and missions in order to identify problem areas to be addressed and level of activities required from the Project. This assessment should determine if the Project requires increased funding.

3. The status of the Project in the S&T/H action plan should be reassessed in terms of regional bureau priorities.

4. Regional bureaus and missions should be informed of the availability of project services in relation to the draw down on the funding ceiling.

ANNEX 1

THE CENTERS FOR DISEASE CONTROL PASA

The VBC receives assistance from PASA with the CDC. This PASA provides a mechanism by which CDC personnel can be accessed by A.I.D. to participate in VBC project activities. The SOW covers applied field research, evaluations, strategy development, new tool testing, drug and insecticide resistance tests, training, and monitoring the impact of control programs. Under the PASA, CDC has provided assistance from its units in Atlanta, Fort Collins, Puerto Rico, Guatemala and Kenya. CDC accepts cost of travel, per diem and a 20 per cent overhead for staff participation. A modicum of equipment, commodities and supplies may also be provided for applied field research activities. The PASA is budgeted at $100,000 per year; all expenditures and billings are approved by the S&T/H project officer.

Expenditures for the period June 1986-May 1988 and projected for June 1988-September 1989 for six diseases are:

	$ SPENT (%)	$ PROJECTED (%)	$ TOTAL (%)
Guinea Worm	$35,257 (41.9%)	$30,000 (20.5%)	$65,257 (28.4%)
Malaria	27,848 (33.1)	90,000 (61.6)	117,848 (51.2)
Schisto	10,935 (13.0)	0 (0)	10,935 (4.8)
Filariasis	0 (0)	8,000 (5.5)	8,000 (3.5)
Dengue	8,532 (10.1)	16,000 (11.0)	24,532 (10.7)
Leishmaniasis	1,500 (1.8)	2,000 (1.4)	3,500 (1.5)
Totals	$84,072 (100%)	$146,000 (100%)	$230,072 (100%)

All three parties to this PASA (CDC, VBC, and A.I.D.) seem to be satisfied with the results thus far. A.I.D. expressed concerned that too much attention is given to Guinea Worm; after reviewing the proposed expenditures and considering the possibility of Guinea Worm control, it was the conclusion of this evaluation that the present allocation is warranted.

CDC realizes that under the PASA, they are to provide technical assistance and service for the VBC and should not to be in competition with private enterprise nor cause undue interference with CDC domestic programs.

Examples of CDC involvement include: entomological and serological studies on dengue in Honduras; schistosomiasis control in Egypt; development of protocols for community based malaria control in West Timor, Indonesia; a course on arbovirology in Nepal; Guinea Worm related activities in Cameroon; assistance to the Onchocerciasis Control Project (OCP) in Burkina Faso and Nigeria; and a workshop on Aedes-borne epidemics in the Caribbean.

CDC uses the PASA as an opportunity to develop and field test, new tools and methods; these have included the development and demonstration of microplate assays to detect insecticide resistance in Guatemala (new tools). The PASA has also funded attendance at international pesticide meetings related to VBC interests and procurement of equipment relevant to project activities.

Scientists at CDC indicated that involvement with the VBC, and in particular with Dr. Lennox, has been positive. Coordination between CDC and VBC has been effective in terms of complementary capabilities.

CDC can be accessed at a very modest cost to the project (i.e., travel and per diem and 20 per cent overhead). Funding has not constrained greater involvement of CDC. To date only $84,000 has been expended in the two years that the PASA has operated. CDC's involvement with other centrally funded and bilateral PASAs has limited their participation in VBC activities. Given this constraint, priority areas for CDC involvement during the next two years of the project should be defined and agreed upon.

ANNEX 2

THE VBC RELATIONSHIP WITH UNIVERSITIES AND RESEARCH INSTITUTIONS

Comments and recommendations:

1. Since the future of vector control relies on the development of new technologies and elucidation of the biology of the vectors as they relate to transmission, the VBC has a unique opportunity to encourage USAID missions to advocate and promote in-country university and institutional research on vector biology and control. Use of PL-480 monies and similar opportunities should be strengthened.

2. To further vector control research, the VBC should maintain close liaison with, encourage and promote A.I.D.'s Office of the Science Adviser's biotechnology and biocontrol programs and BOSTID'S vector ecology programs.

3. There are a number of foreign graduate and postdoctoral students enrolled in U.S. universities studying vector biology and control and being supported by international agencies and/or their governments. The VBC should develop contacts with these students and encourage them to present VBC-sponsored seminars. Such activities might provide a basis for relationships which could further the VBC's mission. Such students might also be considered potential future consultants.

4. Every year, there are fewer U.S. advanced graduate and postdoctoral students studying vector biology and control. Of the few that are being trained, most graduate with no field experience and little opportunity to broaden their skills and experience in vector biology and control. Active intervention is warranted to maintain at least a minimum level of expertise in vector ecology in the U.S.; the VBC may be able to assist. Consideration should be given to establishing a short-term training program whereby three to six students a year would accompany established and experienced professional consultants to the field for a short duration (10 days to three months). These students would be called trainees or assistants and would not receive a consultant's fee. Although the VBC would arrange and provide their travel and per diem, universities should be encouraged to assist their graduate students in these activities.

5. The TAG and TAC meetings have included nearly every U.S. governmental and international agency remotely connected with vector biology and control. Thirty-seven and 29 participants respectively were invited. However, there has

not been any participation by a U.S. university outside of the subcontractors. Lack of input from other universities may limit the VBC's vision. Therefore, it is recommended that at least one representative from three universities in addition to the three subcontractors be invited to participate in future meetings.

6. The VBC should continue to establish close relationships with medical entomologists in U.S. university entomology and biology departments and encourage them to participate in VBC activities. The VBC should attempt to adjust consulting trips to fit the faculty's schedule if such adjustment does not jeopardize the VBC activity.

7. The VBC has initiated an excellent intern program at the assistant professor level where recent graduates from the subcontractor universities are recommended to work at the VBC for a period of three to six months. Thus far, there have been two interns involved in the program. If funds are available, the program should be expanded to support eight interns a year or else extend the period of time for each intern up to one year. If the subcontractors cannot provide qualified interns, junior scientists from other institutions should be considered for the program.

8. The VBC should consider using U.S. military vector biologists as consultants. The U.S. Navy and U.S. Army have biomedical research laboratories in Asia, the Middle East, Africa and South America. All of these laboratories have on their staffs entomolgists, parasitologists and arbovirologists. By special arrangement with the commander of the units, personnel may be borrowed from these laboratories on a short-term basis and require reimbursement for travel expenses only.

ANNEX 3

REVIEW OF SELECTED TECHNICAL ASSISTANCE ACTIVITIES

The project activities selected for review involved assistance in the area of vector ecology and environmental management (Honduras and El Salvador); a long-term effort to complement a bilateral malaria control program (Ecuador); and response to mission needs using core project funds (Bolivia).

Honduras Environmental Assessment of Health Sector II:

The VBC in collaboration with WASH responded to a request from USAID/Tegulcigalpa and AID/W environmental office to conduct an environmental assessment (EA) of the vector control component of the Health Sector II project, a $50 million project. A five-person team was sent to Honduras. Although the report was not available for review at the time of this writing, mission and AID/W responses have all been positive. The team was able to balance the different and disparate concerns expressed by the AID/W environmental office and the health office in the mission. Most of the project sites were not identified at the time of the EA. To assure incorporation of environmental considerations during project implementation, the team prepared an environmental review document that can be used by project personnel as a decision-making tool throughout the life of the project.

This was the first EA conducted by the VBC and it demonstrated the project's abililty to respond to an important need. Consideration of the environmental impact of vector control interventions requires a thorough understanding of the vector with respect to the proposed action and the ecology of the vector habitats. This capability is present in both the project core staff and some of its consultants. The VBC is therefore capable of promoting coordination between the agriculture, health and environmental sectors.

El Salvador Source Reduction in The Ticuiziapa Estero:

This report was a thorough review of both the environmental management and vector control implications of source reduction in the Ticuiziapa Estero. The consultant reviewed previous work in El Salvador and related areas, providing a comprehensive overview of environmental management and source reduction. The recommendations appeared to be practical and reasonable. The particular strength of the consultant's report was his careful consideration of the environmental implications of proposed actions while at the same time trying to address the vector control issues.

ECUADOR:

The series of buy-ins and activities in Ecuador represents a valuable on going effort which complements and supports the bilateral malaria control program. The VBC has consistently followed up on expressed interests and opportunities for work with the mission, particularly in developing the computerized malaria information system. The VBC has successfully coordinated the computerization of the CDC's insecticide resistance studies (supported through the CDC PASA) to assure that CDC data can be accessed and analyzed by the in-country computer system. This has been a positive experience in terms of institution building and collaboration.

Although Ecuador's experience with VBC consultants has been somewhat mixed, the overall response has been positive. With the exception of the midterm evaluation team, most consultants were responsive to mission and host country concerns. The midterm evaluation team spent insufficient time with host country counterparts and thus produced a report that was felt to be of limited value to both the mission and the Ministry of Health. The community participation consultant did interact extensively with counterparts and as a result action is now being taken to implement report recommendations.

In general the mission has been pleased with the quality of VBC assistance, the conscientious follow-up and the role the VBC has played in influencing the bilateral program. It should be noted however that it is unclear if this success is the result of a strategic approach or simply a reflection of the capability of VBC staff.

DDT Susceptibility of Anopheles in Bolivia:

Although it is questionable that an outside consultant was needed for such a study, there is no doubt that the consultant did a first-rate job, despite the limitations. The consultant fully appreciated and collaborated with his Bolivian counterpart and was sensitive to local constraints. Mosquito densities were very low during the time of the visit (VBC did not select the date). Nevertheless, the consultant made the best of the situation and looked at other issues which led to questions on the role of different vectors and the practicality and efficacy of current control practices. A number of recommendations for follow-on studies related to vector incrimination were also made.

ANNEX 4

SOCIAL AND BEHAVIORAL ASPECTS OF VECTOR CONTROL

The VBC Project staff should be commended for the innovative activities it has developed in the "exploration of the social and economic factors that relate to vectors and disease transmission and how these factors may influence the implementation of control measures", and the "promotion and support of programs based on community participation and the integration of these programs into the primary health care structure and activities of host country communities." (Page 2, VBC STATUS REPORT, 1988.)

This attempt demonstrates an admirable awareness on the part of VBC staff of important issues that have been increasingly recognized to influence the success of vector control programs. In various trip reports, VBC staff have highlighted the importance of involving social anthropologists and economists in review activities which demonstrates a sensitivity to the division of skills among the social science disciplines.

This is a fairly new focus for the VBC, only two activities explicitly involve community participation (Ecuador and Indonesia). One begins to address the issues of economic impact of vector diseases (Nigeria-Guinea Worm) and another is at the exploratory stage to examine aspects of economic development and vector control (Chad-irrigation). No activities have yet focused on the human behavioral aspect. In the information area, data management plans in in Ecuador and Nepal have included economic impact of malaria.

The activities reviewed here are considered in the context of the following questions:

1. Are innovative approaches being tried?

2. What is the extent of familiarity with the international literature to increase technical soundness?

3. What efforts are being undertaken to involve local social scientists in initial discussions with Ministry of Health and VBC staff, and later, in project activities, to ensure reliability, sensitivity, continuity and sustainability?

BELIZE

The report on Increased Productivity for Better Health in Belize is excellent; it appropriately includes support of village volunteers as well as program infrastructures. Nonetheless, it is over-ambitious concerning the role of community participation

and the liklihood of achieving self-sufficiency. While it is sound on the social science aspects and the training recommendations, the consultants do not refer to the extensive literature on the problems of volunteer village health workers (e.g., reports from WHO's Strengthening of Health Services Division and from PRITECH). Countries such as Thailand have been experimenting with many different approaches in this area and reports on these experiences are an important source of information on the difficulties and advantages of collaborating with different types of volunteers.

ECUADOR

The activity in Ecuador aims to develop a program of health education and community participation for control of malaria and *Aedes aegypti*. The report indicates that a well trained social scientist was involved but one who has not had extensive experience in examining social aspects of vector control. There is an inappropriate reliance on KAP (Knowledge, Attitude and Practice) surveys; in many other instances these surveys have been shown to yield unreliable results. Much of the research on these topics has demonstrated that it is more effective to begin with a qualitative in-depth study, not necessarily long-term but of sufficient duration to obtain enough information on why people are doing what they are doing and the constraints that impede modifying that behavior. Starting with a quantitative survey will not provide the best basis for program development. It is worth noting that the consultant in this instance did recommend a multi-faceted approach of both quantitative and qualitative research; it appears however that the final approach will focus on the quantitive survey.

An impressive effort was made to involve the local social science community, but the focus on communications specialists may not result in the most appropriate programs. For example, the plan for health education and community participation for *Aedes aegypti* control makes it sound very easy to mobilize popular support and participation. Unfortunately this has not been the case in many situations and the emphasis on social marketing and social mobilization could backfire unless there is much more careful groundwork.

It should be noted that it is difficult to specify in advance what kinds of communications material will be necessary because it may be that people are well aware of the problem but are unable to take advantage of the program and "change" their behavior due to the way the program is being delivered or to economic or time constraints on their ability to mobilize

themselves for control purposes. Greater consultation with more experienced social scientists prior to the field work would yield a more effective plan for the project and more practical results.

Moreover, the orientation solely towards behavioral change is somewhat limited. In other activities of this nature, it has been of crucial importance to understand the constraints on changing behavior and to examine how the vector control program could change its approach rather than to force change on people who may not recognize or appreciate the benefits the program staff perceive from having the population change its behavior. Therefore, careful examination of program practices and attitudes of the control program staff as well as of the communities themselves is likely to yield important insights for improvements in program-community interaction.

The time frame for the study is very short and it is unlikely that the impact will be recognized in the anticipated project period.

In sum, this project shows a careful approach but one that would benefit a great deal from discussions with other social scientists in the region as to how they have proceeded to carry out studies on malaria or Chagas disease control to bring about improvements in program delivery, community acceptance, and in some cases, community participation for disease control.

INDONESIA

Similar problems emerge from the report on implementation of operational field trials on community-based malaria control in West Timor, NTT Province, Indonesia. While the report is excellent in its analysis of the problem, that is, of the kinds of organizational and training issues that have been given attention and the problems likely to be encountered in trial implementation, it does not provide much guidance on the concept of education and self-help and the constraints or the opportunity costs that influence people's motivations to become involved in these activities.

The consultant has not drawn on the extensive experience in other sectors in trying to foster community participation in Indonesia, especially in the family planning area. Although in Indonesia there is a strong orientation toward community participation, this has usually been for more direct economically-relevant purposes. It would be useful to obtain advice from social scientists in local universities and in the family planning and primary health care programs. It would be essential to have a local social scientist help with the design and the content, especially for data collection and analysis.

There are not enough details in this report to know whether in fact the social evaluation has been carefully carried out and whether the trial that is taking place will yield the kind of information that is being sought by the control program.

NIGERIA

The fourth cluster in this study aims to measure the impact of Guinea Worm on agricultural productivity in Nigeria. This is a collaborative activity drawing on the VBC subcontractors, WHO and UNICEF. This is a well thought out proposal but it also has an important limitation in its concentration on agricultural production, even though in this case the proposal has been expanded to analyze household production and not just the impact on agricultural workers. The results of several other studies which examine the impact of diseases demonstrate that the greater impact is on patterns of time use within the household. This change in pattern often turns out to be more feasible to measure than the monetary costs. The team would benefit from reviewing past work in the field, including reports of projects and meetings sponsored by WHO and TDR and from literature in the area of farming systems research.

In the proposal, the use of the concept of household cluster of Guinea Worm shows that epidemiological concerns have not been taken into account in relation to transmission patterns and human behavior. It is more likely that infected cases will be clustered around water site use. Yet, the water-use aspects are not addressed in this project.

Although in the proposal there is discussion of an in-depth study, the team apparently is using a standard questionnaire. Other studies of the economics of disease have shown the need for in-depth anthropological work carried out by a trained investigator. The in-depth study should be carried out under the supervision of experienced social scientists. Instead of hiring enumerators, it might strengthen the field work to incorporate graduate students to carry out more detailed observations of the economic, social and epidemiologial aspects of the problem at the community level.

It is strongly urged that any work in this area be evaluated by external reviewers before implementation. Although experienced people are part of the teams, this is a highly complicated area. It will be very difficult to achieve useful results unless the study is appropriately designed.

ECUADOR AND NEPAL

As part of the data management systems being developed in conjunction with the malaria control programs in these countries, VBC consultants have admirably sought to broaden the data collected. However, under "stratification and impact of disease" sections, items are included that are very difficult to measure and may not be useful for program analysis. The social aspects of stratification have been well described in the report of the WHO 18th Expert Committee on Malaria. This document should be consulted prior to finalizing the system. Moreover, the concepts of disability and wage loss included under economic impact are not reliably measured through routine data collection. For malaria in particular, household substitution of labor for productive purposes has led to imperceptible or no change in wage earnings; the impacts are subtle and require special analysis. Economists working in this area should be consulted as they have demonstrated such impacts qualitatively.

ANNEX 5

INSTITUTIONAL AND HUMAN RESOURCE DEVELOPMENT ACTIVITIES

Introduction:

As stated in the contract for the VBC project dated August 30, 1985, the scope of work for ID/HRD "encompasses that body of knowledge and skills related to the organization, management, staffing, training, design, operation and maintenance of vector control programs" (page 23). Activities in this area include:

1) Institutional planning
2) Development of training materials
3) Development of maintenance programs for urban and rural vector control
4) Short-term (one to four weeks) in-country training courses
5) Development of information manuals
6) One multi-country workshop per year
7) Presentations at regional meetings of A.I.D. health officers

It was further stated that the activities should be undertaken in collaboration with multilateral and bilateral donors; moreover, activities should take place in English, French, Spanish or Arabic.

The overall objectives of these activities, as stated in the May 15, 1988 status report, are to increase the skill levels of vector-borne disease control personnel in developing nations, and to provide assistance to improve and strengthen regional training centers and research institutions. Over the two-and-a-half years of the VBC Project, a total of 28 projects have been developed in the ID/HRD component: Five in Latin America; 15 in Asia and the Near East; three in Africa; and five "other". It should be noted at the outset that many of the activities under "technical assistance and information" include substantial elements of human resource and institutional development so that these numbers are underestimates of the activities taking place in ID/HRD.

In the review that follows, some critical considerations are raised concerning the general nature of the ID/HRD activities, along with specific issues identified from a review of a sample of VBC activities. In the interest of strengthening this work, some of the factors leading to success as well as some of the limitations of these activities are noted, from which emerge recommendations for future actions.

Critical Considerations in the Review of ID/HRD Activities:

In developing ID/HRD activities of the VBC project, critical considerations should include (at a minimum) the following:

1. Institutionalization:

   a. Does the activity meet a recognized need?
   b. Is the activity sustainable or a short-term effort?
   c. Is the activity truly collaborative with agencies or institutions that can follow-up the activity (e.g., the government, multilateral or bilateral agency)? Will these agencies be committed to continuing the efforts?
   d. Is the activity based in an established institution to ensure adequate follow-up?

2. Content:

   a. Is the most relevant and up-to-date information being taught?
   b. Do students find the material useful and can they apply the techniques and approaches under existing conditions?

3. Evaluation:

Do criteria for evaluation include the following points:

   a. Change in work performance.
   b. Improved control.
   c. Demand for more courses.
   d. Implementation of follow-up activities by collaborating partners.
   e. Use of trainees by later VBC missions.
   f. a decline in demand for external assistance because of strengthened capacity.

Developing countries are littered with papers, manuals and reports emanating from short-term training activities and poorly-prepared institutional development support. Because of the VBC project's close linkages with USAID missions and the serious attempt to undertake each training activity in a collaborative manner, many of the above considerations are being addressed. However, the primary criterion used to select activities is that of responding to a USAID mission request. It is not evident that the VBC team has systematically addressed the above stated critical considerations before undertaking an ID/HRD assignment. There appears to be only limited discussion concerning the need to respond to a government-recognized need and even less attention has been given to sustainability or institutionalization of the effort. In reference to the specific

aspects of ID, no criteria are stated nor is there a clear statement of definition, which did not facilitate evaluation of these activities. The new proposed future strategy for VBC, however, does begin to raise these concerns at least in a general way.

Furthermore, from an analysis of the training activities as listed in the May 1988 print out given to the evaluation team, it appears that several different types of activities are defined as part of the ID/HRD component. Fourteen activities, or one-half of those listed, were training courses or workshops for entomologists in developing countries: two were workshops or seminar series in the U.S.; two were institutional development activities with no training; one was conference support; one was a data management course; one was a course on clinical malaria; one was on safe pesticide use, and six were lectures given by VBC staff or involved staff participation in meetings in the U.S. or elsewhere. It is difficult to sort out what is meant by training activities with this type of listing.

In addition it was difficult to date activities as the reports do not always include dates, and there is no consistency between code number listed in the activities and any listing in the project report. It is not clear from the material reviewed as to when the activities actually took place as opposed to when budgets were obligated. Some have been listed as activities with no budget obligation to date, although the quarter listed indicates that they already took place (e.g., Ecuador listed for the ninth quarter but no person allocation of persons/days budget or actual status to date). This is as much of a management as a technical concern, but one that needs to be addressed in order that any future evaluation or assessment of the project can be efficiently conducted.

The critical considerations suggested above form the basis of the review of the ID/HRD activities. Because of time limitations, only a few selected activities were reviewed in-depth (i.e., by thorough reading of available reports and discussion with VBC staff and some collaborators), although the brief paragraphs on each of the ID/HRD activities were noted. Four sets of activities were chosen for review : (1) A country where continuing training activities are taking place - Burma; (2) The one institutional development activity to date - Kenya; (3) The one regional multi-country course to date - Barbados; (4) Two technical assistance activities with major ID/HRD components - Sri Lanka and Egypt.

Review of Selected ID/HRD Activities

Burma: Training Course

Although some of the background material was not available to the team, from a review of the existing reports and discussions the approach in Burma seems to provide a model of how the VBC project can work most effectively. The main activity so far has been a five month training course in medical entomology and vector control. This course was in response to the priority of the People's Health Plan of Burma and to a request from the USAID mission, the Canadian International Development Agency (CIDA) country mission and WHO presented to VBC staff during a site visit. It was directly related to a national and USAID mission-identified need, and took place as a collaborative activity. It was developed by a joint team of a VBC consultant and a WHO staff member in consultation with Burmese colleagues.

The draft course evaluation by participants indicates that it was useful. From a review of the course work, it seems that there were clear objectives and that more than sufficient attention was paid to developing a fairly broad course outline. Careful attention was given to achieving a mix of Burmese and external faculty, and to developing teaching approaches which would take into account the training level of the Burmese students, with sufficient flexibility to meet their needs. The coursework, however, seemed overly focused on pesticides, biological control and larvicide use, with limited attention given to environmental management, vector ecology and even more limited attention given to integrated vector control. In addition, the section on community participation and primary health care seemed to rely on field visits; from the description, it appears that there was not a trained faculty member to provide the appropriate practical yet conceptually-sound background for this area. Social science staff were also under represented. Moreover, there was no discussion of the cost of vector control. Given the fact that the entire budget for malaria control comes from the Canadian government (as indicated in the consultants' report), some attention should have been given to costs and economics of vector control in case that funding disappears.

Thus, while the course seemed carefully prepared, was in direct response to a national need, and was developed collaboratively, the content seemed very traditional. It was not evident that the most up-to-date materials on integrated vector control or integrated pest management, human behavior, community participation, primary health care and vector control organization were incorporated. Although, follow-up activities have been identified, including a course on integration of vector control activities in the primary health care system, it is not certain how or whether the government of Burma, WHO, or the USAID

mission will support these activities. In terms of meeting the needs of the country, this was an important start, but the follow-up requires continuing attention.

Despite these concerns, the Burma course is a promising model of a comprehensive plan to strengthen vector control activities within a given country. Future activities should build on these efforts and solidify their incorporation into the vector-borne disease control division of the Ministry of Health in Burma.

Kenya: Institutional Development

The review of this activity was drawn from two reports available to the evaluation team: A preliminary trip report on visits to five African countries (August 9-27, 1986) for needs assessment and activity development by VBC staff (Dr. R. Lennox) and a consultant's report from 1988. Kenya was visited by a VBC staff member and discussions were held with the Kenya Medical Research Institute (KEMRI) on the need to strengthen activities at its Vector Biology and Control Research Center in Kisumu. The available consultant report was from a visit conducted 16 months after the initial VBC contact.

The activity is somewhat difficult to assess since there is no statement of the strategy behind VBC-supported institutional development activities in general, and specifically in Kenya. The available consultant's report does not provide the strategy for developing the Kisumu center, although different research activities of the staff were assessed. Moreover, there is no reference in the report to the fact that, since 1980, KEMRI has received more than $1.03 million of support from the UNDP/WORLD BANK/WORLD BANK Special Programme for Research and Training in Tropical Diseases (TDR) in Geneva. It has been thoroughly reviewed by TDR external review teams over the past five years, and continues to receive support from the Kenya national government and the Japanese government. The context of this activity is not well defined.

KEMRI is the major medical research institution in Kenya and is in a key position in the field for strengthening vector biology and control activities in the country. It is essential for VBC to work more closely with TDR and the other donors (i.e., the national government) in terms of recommendations for institutional development. For example, the attempt to tie the ID activities to one counterpart institution, namely Harvard University, may unduly limit the scope of collaborative activities. Greater attention to meeting national vector biology research and control needs and long-term sustainability will help to support the fairly thorough research and infrastructure recommendations made by VBC consultants.

BARBADOS : Regional Course

One regional course has been held to date and evaluated : "The Emergency Control of Aedes-borne Epidemics Workshop", Barbados, 11-15 May, 1987, report number CE-021-2. This was a joint PAHO/VBC/A.I.D. activity and it also utilized the VBC/CDC film on Aedes albopictus developed under an earlier activity. The report of the meeting was thorough and very informative. There was also a solid evaluation and constructive critique of content. The only element that was not addressed in the final report was the responsibility for follow-up. The assessment has not been made by VBC of any follow-up which has taken place in the year since the course was held.

This appeared to be a very successful activity that met a recognized need, and thus careful assessment of impact would benefit the VBC project. It would assist the staff to ascertain how future workshops, especially regional ones, could best be organized and how their collaborator, in this case PAHO, could build on the follow-up discussions at the workshop.

Sri Lanka and Egypt: Technical Assistance plus ID/HRD

Two major activities classified as technical assistance and which

also give significant attention to ID/HRD have been carried out in Egypt and Sri Lanka.

The activities in Sri Lanka focus on malaria control and can be considered a mixture of technical assistance, human resource development, and institutional development. In responding to previous evaluation missions and USAID requests, VBC staff and consultants are now developing activities related to integrated vector control, a field project in the south of the country, and on-the-job training of staff.

This is a very important activity in a country where malaria control is crucial for successful economic and social development. It would greatly strengthen the activities if use were made of experiences from previous projects which have taken place in Sri Lanka, but these have not been referred to in any of the documents in relation to improving vector control activities. A careful review of previous operational research activities for malaria conducted by nationals (rather than by international scientists) should assist in identifying the appropriate content of the pilot project in the south. Moreover, since the social and epidemiological conditions in the south are significantly different from those in the north and in the central, "dry zone" of the country, serious consideration at this early stage should be given to the mechanism by which the results of this pilot activity will be extended to other areas.

If the project were considered an institution-building project, additional elements for expansion to cover the entire country when the project is completed could be included. This would sustain the technical assistance activity.

A second activity which is clearly ID/HRD is the comprehensive schistosomiasis control project in Egypt. From the documents reviewed, it is evident that this project will support an impressive combination of activities that should greatly strengthen the schistosomiasis control capacity of the Ministry of Health and the research skills of the Egyptian scientific community. Since it is not presented from an ID/HRD perspective, the aspects of continuity and follow-up to sustain the extensive program are not explicitly addressed. Because of the TA approach, there is an imbalance appearing to favor the expatriate element over the Egyptian component. Linkages with other agencies such as WHO, TDR or European donors were proposed but not acted upon.

More attention should be given to strengthening the social science aspects, which are extremely weak. For example, it appears that the technical review committee does not include a senior social scientist from Egypt to ensure that appropriate research activities and skills are developed. Moreover, this project does not appear to build on the extensive research experience on all aspects of schistosomiasis in the country; the list of projects referred to is somewhat incomplete with regard to Egyptian research activities, especially in the applied areas.

Thus, while this is an extraordinarily important project from the perspective of strengthening schistosomiasis research and control in Egypt, there is still a considerable amount of work to be done to ensure that this will build on existing strengths and develop new areas of expertise to lead to a program of sustainable and effective schistosomiasis research and control in the country.

Findings:

From discussions with VBC staff, individuals involved in the VBC activities, and the review of written material, considerable and admirable strengths have been demonstrated in the ID/HRD component; the weaknesses that have been identified are not difficult to remedy. The strengths are that the HRD elements have been responsive to national needs and identified carefully with the USAID missions; most are collaborative in organization and implementation. The training courses have been well-planned and well-received. However, more attention should be given to strengthening the innovative aspects of the training courses (e.g., integrated vector control, community participation), to developing follow-up activities, and, importantly, to linking more closely with a national institutional base, such as

happened in the Burma case. This would ensure that the results of training will not dissipate, especially since the courses are relatively short-term. A detailed evaluation of the Burma courses along the lines of the critical considerations as indicated above should help determine whether VBC should undertake similar long-term courses in other countries.

One basic concern is that there have not been many training activities. Analysis of the projects listed shows that only half of them, that is 14, are training activities. Greater attention should be given to increasing the training components as part of technical assistance activities, which should serve to expand efforts in this crucially important aspect of the VBC project.

Another way to expand and strengthen the VBC training activities is to link with on going, in-country training programs. It is surprising that there is no linkage with the seven Masters of Entomology courses that have been developed by the TDR program and WHO/VBC Division. These are regional courses and would provide a solid institutional base for the short-term courses. Moreover, the faculty from these courses could be used as faculty on the short-and long-term courses. Closer collaboration with the TDR program on training might also lead to additional collaborative support in the financing of participants and follow-up efforts.

One innovative development which VBC apparently has not pursued is the utilization of the trainees in future VBC missions. It would be highly desirable to develop plans for follow-up activities that would build on the strengths that have been developed in the trainees so that they could become part of VBC teams in future country activities, whether technical assistance, human resources development, institutional development, or information. An important element of HRD is on-the-job training; VBC missions could provide an opportunity for those trained in the VBC courses to expand their skills even further.

In addition, there is a notable weakness, paralleling the one identified in the technical assistance activities, in the content provided for the topics of community participation, primary health care, intersectoral actions, human behavioral aspects, and economic assessment of resource needs for vector control programs. The expertise of developing country social scientists and operational staff who have extensive in-depth knowledge on these aspects should be utilized. Such persons should be included as faculty for the courses so that the entomologists are provided with conceptually sound and practically reliable material. This would greatly strengthen these sections of the courses.

Specifically concerning the one explicit ID activity, more thorough planning is necessary. A careful review of KEMRI's sources of support, prior assessments and recommendations that have been made, and on going participation in training programs appears not to have been undertaken. The recommendation to rely on one expatriate institution will limit the options for KEMRI staff; it is not clear that the proposed work plan relates to the actual needs in the field. The linkage with the Vector Borne Disease Division of the Ministry of Health was not specifically described. Since KEMRI is already a strong institution in other areas, it is essential that its Vector Biology and Research program in Kisumu be equally strong, especially to complement the KEMRI field research and clinical research centers in Nairobi.

Conclusions:

The limited efforts of the VBC in the area of ID/HRD appear to meet several of the critical considerations listed in the beginning of this section, although greater effort has been given to the HRD activities than to those for ID. Expanding HRD and ID efforts in the context of the TA activities merits serious attention since implicitly this is occurring in many instances. More explicit planning in the light of critical considerations should enhance the complementarity of technical assistance and ID/HRD activities.

Greater attention should be given to the sustainability of ID/HRD efforts, including follow-up at the national level and the utilization of local trainees to continue to enhance their operational and research capacities.

The innovative, cutting-edge content of the training courses is outweighed by the traditional elements of entomology and vector control. The pool of expertise drawn upon for the courses may have determined this mix and should be expanded in new activities. No strategy statements appear to have been developed for country- or even institution-specific ID/HRD activities, which severely limits the likelihood of sustainability.

A good start has been made but more systematic effort would strengthen the impact of this component in developing countries.

To enhance the impact of the VBC efforts in ID/HRD, the following actions are recommended:

1. Development of guidelines for ID/HRD activities to be reviewed by experts in this area as well as by VBC specialists (ID/HRD experts drawn from e.g., A.I.D, WHO/PAHO, TDR, Fogarty Center) to ensure that issues of need, sustainability, and follow-up are explicitly addressed

for any in-country or regional project. These guidelines could be reviewed by A.I.D. health officers at the regional or global meetings.

2. Enhanced development of all ID/HRD activities in collaboration with partners who can support follow-up programs, including establishing training courses in institutions which already have long-term medical entomology training courses.

3. Expansion of the roster of consultants to include developing country specialists at the cutting-edge of research and operations in vector biology and control.

4. Continued and expanded emphasis on short-term and long-term evaluations of courses by students, faculty and employers to inform development of new courses in the same country or elsewhere.

ANNEX 6

ANALYSIS OF THE VBC INFORMATION SYSTEM AND SERVICES

INTRODUCTION

In view of the serious time constraint (five days) under which this evaluation of the VBC project's information component was carried out, it should be noted that the consultant made a concerted effort to rapidly identify those areas which would most benefit from recommendations for future action. After discussions with VBC staff and review of core project documents, it was the consultant's judgement that information services required the most attention.

This report will briefly address data management technical assistance activities, followed by a section of comments on project technical reports. The evaluation of the information system and information services constitute the main body of the report. A section of comments on budget and staff conclude the report.

DATA MANAGEMENT TECHNICAL ASSISTANCE ACTIVITIES

The technical reports on data management activities in Ecuador and Nepal indicate an excellent overall approach, as well as an appropriate and laudable use of local resources for information system development. The training program (carried out in Ecuador) appears to have left a solid base of local staff in place who have assumed responsibility for training their colleagues. Since the USAID response to the cable survey concerning these activities was quite positive, it did not seem necessary to contact the missions further.

PROJECT TECHNICAL REPORTS

The final edited versions of VBC technical reports reviewed by the evaluation team were found to be clear, consistent and very well done. The report style manual is an excellent document. The tailoring of distribution lists for each report is also well done. The evaluation team expressed concern on only two points:

- The issuing date, and not just the activity dates, should be placed on each report.

- The response to the mission cable survey indicated a few cases of perceived tardiness in issuing final reports. This appears to be a communications problem. The highly commendable practice of leaving draft reports at missions-- drafts which are obviously of high enough quality that action has been taken on their basis-- may in some cases

complicate the final report process. Obviously project staff and consultants must continue to leave draft reports. However, if no comments are received from the mission within 15 days, a cable should be sent stating the final date the report will be issued and the deadline for comments.

It is not clear from the PROJECT STATUS REPORT what, if anything, is planned for the disease specific papers which have been requested by A.I.D. If it has not already been done, consideration should be given to issuing the papers as one or multiple technical reports. This would be an information product that would have a potentially much wider audience than mission health officers, for whom the papers were commissioned. The level of effort that the activity required is difficult to justify if the results are to be distributed to such a limited audience.

Generally speaking, the project technical reports (those which are not restricted) should figure into information dissemination efforts.

THE INFORMATION SYSTEM

The Computer System:

The project computer system, consisting of eight in-house PC's and peripherals, as well as a contract with Control Data Corporation to provide mainframe data storage and system development assistance, has been well designed, has utilized the latest advances in technology and is, generally speaking, quite impressive. It is also very expensive. The point of the latter remark is not to infer that the same results could have been achieved at a lower cost. Different results could have been achieved using a different (and less costly) system. For the remaining life of the VBC project (including Phase II) the overall current system should be maintained and enhanced as appropriate once the planned changes have been executed. [Note: The original system development plan envisaged transfer of the database from Control Data to an in-house operating system once the primary files had been adequately developed.] Nothing would be achieved by radically altering the system at this time; such action would only result in the loss of considerable initial investment. The costs of maintaining the system will drop enormously once the project database has been transferred from the Control Data mainframe to in-house equipment. The timetable for this transfer (within the next four months) should be strictly adhered to. While the consultant recognizes the difficulty of making a decision concerning software (in this case, the operating system) that is available today versus

software that promises to be available tomorrow, the costs of the Control Data contract present a strong argument for transfer as soon a possible.

From a systems analysis perspective, the design and development of the project's system is excellent. A special note of praise should also be given to the data back-up and security procedures. While these are standard operating procedures in large business and institutional information resources management departments, they are often missing from smaller scale operations.

While other projects will require their own tailored equipment configurations, the approach taken in the design of the VBC system provides A.I.D. with a model for future project design.

The Database:

The project's integrated database consists of the following components (in various stages of development):

VBCNET, the consultant roster
Status: functioning; currently 850 records

VBCINFO, the bibliographic file
Status: functioning; currently 10,000 records of which 4000 are indexed and abstracted

VBCTRAC, the project tracking file
Status: functioning in-house; final testing stages for integration

VBCAID, the portfolio of related projects
Status: not yet developed

VBCDATA, the vector and disease raw data file
Status: in development; initial data input from WHO (insect resistance) and Armed Forces Pest Management (mosquitoes)

The database coding scheme, a subset of which is the indexing language, is well developed and appropriately consistent within each component.

Data entry formats for VBCNET and VBCINFO are set up for batch entry, the advantage of which is speed. However, the risk of error in this process should be investigated more thoroughly by appropriate VBC staff. Current levels of accuracy may be more a reflection of the data entry clerk than the procedure. In the event of any staff changes in the future, this question should be reviewed.

With regard to the planned component VBCAID, a thorough review of project information already contained in A.I.D.'s Center for Development Information and Evaluation's database should be carried out before VBCAID is launched in order to avoid redundancy.

VBCNET and VBCTRAC appear to be functioning well. VBCDATA is conceptually sound. No particular problems were identified for these components.

The following remarks will specifically address the database component VBCINFO:

The task of indexing and abstracting the backlog of 6000 documents cited on VBCINFO has been contracted out. This is an efficient and cost-effective method of clearing the backlog. The contractor (Zimmerman Associates) should be able to complete the task within six months. It should be noted that the indexing guidelines prepared by the VBC information specialist for the contractor are excellent. Consideration should be given to using them in appropriate future training activities.

Some report formatting work remains to be done to extract publication quality bibliographies from VBCINFO. If the desired results are not obtained from report format revisions in the current system, some experimentation should be done with down-loading search results into the SCI-MATE EDITOR.

The content of VBCINFO, 10,000 records, is quantitatively far beyond the bibliographic databases of several other centrally funded A.I.D. projects. To offer a few comparative examples:

- -WASH (acquisitions start-up 1980): 5000 records
- -CLEARINGHOUSE ON INFANT FEEDING & MATERNAL NUTRITION (acquisitions start-up 1980): 7800 records
- -PRITECH (acquisitions start-up 1983): 1800 records

There was no time during this evaluation to analyze VBCINFO records. However, the quantity in contrast to other bibliographic databases leads to the tentative conclusion that no real selectivity guidelines have been applied in the development of VBCINFO. This issue is directly related to the acquisitions policy of the VBC Information Center. The Center currently receives 88 periodicals and newsletters of which 38 titles are paid subscriptions at an approximate total cost of $4000 per year. The Information Center and VBC staff are currently reviewing the subscription list. Not only should this review be carried out but also coherent acquisition guidelines for published materials should be developed. These guidelines should obviously be based on the perceived information needs of the

Center's user group. (The issue of the user group, actual and potential, will be addressed in the information services section of this report.)

Since the vast majority of published scientific literature is cited in commercial databases (which the VBC Information Center has access to) the Information Center should be acquiring only those periodicals and reference materials which are needed immediately and/or regularly. While one of the functions of the VBC Information Center is to support the activities of the project staff and consultants, this function should not be interpreted as a mandate to acquire a collection of scientific literature comparable to that of a research institute library. Further, it is doubtful that the technical processing required to cite this type of material in VBCINFO is cost-effective.

The Information Center has stated its intention of concentrating in the future on the acquisition of what it refers to as "grey" or "fugitive" literature. (This type of material, according to Information Center estimates, accounts for approximately 50 per cent of the records in VBCINFO.) The consultant applauds the intention but not the terminology. The following comment on terminology may initially appear superfluous. However, it is directly related to the perception of the role and function of the Information Center.

The term "grey" or "fugitive" literature is most often used by libraries to describe material that cannot be acquired through the same channels as published material. It is therefore a term that implies "apart from the norm", appropriate enough in a library setting. The VBC project was mandated to establish an information center, not a library. For those unfamiliar with the distinction between libraries and information centers, the difference can be most simply stated in terms familiar to VBC: Libraries are primarily engaged in reactive operations, information centers in proactive operations. The Information Center should be using the terms "documents", "technical documents", and "project documentation". The choice of this terminology, particularly in any descriptions of VBC Information Center activities, will reflect that these kinds of materials are the norm and not the exception.

INFORMATION SERVICES

The information services provided by the VBC Information Center to date have basically consisted of responding to requests. In other words, the center's services have primarily been reactive rather than proactive. It has been functioning more as a reference library and not an information center.

Responding to information requests represents only one facet of the primary function of any information center, which is to disseminate information. The VBC Center has not, to date, developed an information dissemination strategy. Discussions with VBC staff indicated that the issue of dissemination is not being ignored (e.g., collaboration with the WASH project in the Guinea Worm Information Network and the planned telex to all missions on the Information Center) but neither is it being approached in a coherent manner. The initial position of VBC on this issue appears to have been that VBCINFO needed to be well developed before dissemination activities could be undertaken. While this logic is most certainly valid to a point, the dissemination issue should have been considered at a much earlier stage. (The effort to launch a VBC newsletter will be addressed shortly.)

The root of VBC's problem in developing and carrying out an information dissemination strategy appears to be a fundamental lack of clarity and definition of the following: who is the Center's audience, i.e., who is the center mandated to provide services to? The consultant's reading of the project contract and project paper leaves no doubt that the audience consists of all individuals and institutions engaged in vector-borne disease control, related to A.I.D. in any way, shape or form. It would appear that there have been inaccurate interpretations of the project mandate on the part of A.I.D. officials and perhaps a lack of experience on the part of VBC staff in the area of information dissemination. (This comment on VBC staff is not so much a criticism as a statement of fact. Project staff responsible for information activities are highly competent professionals. None however are experienced in information dissemination strategies or techniques.)

If any argument is found with the consultant's definition of the VBC Information Center's audience, the question begs: Why was the center funded in the first place? If the audience was only intended to be a smattering of A.I.D. technical officers in Washington and the field, there is no logic or justification for the project paper and contract's language and funding. Given that the VBC Information Center is in place and that VBCINFO is developed and functioning, the question to be addressed is not <u>if</u> information services should be continued but <u>how</u>.

The VBC information staff should undertake as a priority activity the design of an information dissemination strategy. The strategy should:

- Clarify the audience for information services.

Particular attention should be paid to institutional linkages. The relationships which have been developed to date are

exclusively in the developed world. This imbalance must be corrected. Relationships with regional Third World institutions which have established information and documentation centers can provide appropriate and efficient vehicles for information dissemination. It should be noted that there is a considerable difference between providing information services to an individual and an institution. While it is obviously appropriate to respond to an individual's information request, dissemination targets are better defined at the institutional rather than individual level.

- Define dissemination techniques and materials.

The experience with "VBC UPDATE", a newsletter concept presented to and rejected by the A.I.D. Communications Review Board a year ago, should not be interpreted as an overriding red light from A.I.D. for information materials. The reaction to the Board's decision was unimaginative and detrimental to the information services component of the project. The VBC is strongly urged to develop the "UPDATE" as an information dissemination tool. Procedural advice should be sought from A.I.D.'s Center for Development Information and Evaluation (in particular, Ruth Mara). Lack of time prevented the consultant from developing a serious set of recommendations for the "UPDATE". However, the following rudimentary suggestions are offered:

- The "UPDATE", as an information dissemination tool, should be used to inform the audience about project activities within the overall context of vector-borne disease control. Straight-forward reporting about specific project activities is neither particularly informative nor interesting. One approach to be considered: a feature article which synthesizes several similar project activities and places them in context, followed by a listing of technical reports on the activities plus a selected annotated bibliography on the main topic. The program (as opposed to research) orientation of most of the "UPDATE" audience should dictate the level of technicality of the writing.

- Given the staffing of the project, the "UPDATE" should be issued three times per year. Consideration should be given to a geographic focus for each issue (reflecting the A.I.D. regional bureau concentrations).

- It is difficult to see the usefulness of the epidemiological notes sections included in the first draft of "UPDATE".

- The distribution list for the "UPDATE" should concentrate on Third World institutions. (Obviously A.I.D. technical officers and institutions with whom VBC has already

established relationships would receive the "UPDATE".) Missions should be sent, for comment, a list of potential recipient institutions within their operating environments.

In addition to the "UPDATE", the VBC Information Center is strongly urged to develop an SDI (Selective Dissemination of Information) service. The service should be designed in collaboration with A.I.D.'s Center for Development Information and Evaluation which currently does SDI for guinea worm, onchocerciasis and schistosomiasis. At a minimum, the VBC Information Center should be doing a malaria SDI. It should be noted that the target audience for the SDI would not be as broad as that for the "UPDATE".

Some of the activities undertaken by the VBC Information Center to date which deserve comment include:

- Collaboration in the Guinea Worm Information Network (initiated by the WASH project)

The director of the WASH Information Center gave high marks to VBC's contribution to the network's activities. The VBC PROJECT STATUS REPORT (p.6) notes that this activity is being analyzed to develop a basis for an information service strategy. While this is commendable, it should not be the sole basis for either an information services or an information dissemination strategy. (It should also be noted that the high rate of response from the dracunculiasis regional workshop (Accra, March, 1988), while very encouraging, is also very unusual.)

- Compilation of an acquisition's list of books and periodicals for the Burma Medical Entomology Training Facility

This activity was a support component of the five month training course done by VBC in Burma. This kind of support activity (or variations thereof) should be considered in connection with other VBC training efforts.

- Response to information requests

A review of the request log for the period January, 1987, through May, 1988, indicates the following:

--A total of 153 requests were received during the 18 month period, a distressingly low figure which is a direct reflection of the information dissemination problem noted earlier in this report.

--The majority of requests were, logically, connected to specific project activities. Approximately 15 requests came from USAID missions, another 30 from S&T staff. Or so it would

seem. The request log is very difficult to analyze for user categories. This is not just a matter of record keeping that needs to be standardized (a definite need) but more so a problem in the way information requests are transmitted to the VBC Information Center. Both VBC and A.I.D. staff should realize that the project information specialist is not a document delivery clerk. Records which indicate both the originator or the request and the end user of the material must be maintained by the Information Center for both accountability and analysis. These records cannot be maintained if A.I.D. and project staff do not provide this information. If an A.I.D. S&T officer asks for information that has been requested by a mission, the information specialist should by told that it is a mission request and not S&T. The mission itself also needs to indicate the end user of requested materials. If VBC project staff intend to include documents in correspondence, the information specialist should be informed. A hypothetical example may best illustrate how this procedural problem is detrimental to the Project in general and the VBC Information Center in particular:

The USAID/Ouagadougou health officer sends a telex to S&T/H; included in the telex is a request for a literature search for post-1980 articles on guinea worm; the search has been requested by the host country MOH documentation center which is being developed within the context of a USAID funded health planning project. If the request the VBC Information Center receives simply states "S&T/H requests lit search on post-1980 guinea worm", the request is logged as S&T/H when in fact the end user is the MOH documentation center. The project therefore has no record of this connection with the host country institution.

- The Information Center as a practicum site

A Catholic University M.L.S. graduate student (from Egypt, funded by IDRC) has completed a practicum at the VBC Information Center. Consideration should be given to presenting the Center to missions as a potential practicum site for appropriate training candidates funded by other A.I.D. projects. This activity should be particularly considered for Phase II of the VBC project.

BUDGET AND STAFF

All the recommendations made in this report should be able to be carried out by the current staff through the end of VBC Phase I. (This includes occasional part-time graduate student assistance.) If a serious information dissemination strategy is executed, an increased demand for information services should result by the time Phase II of the project is beginning. At that time, consideration should by given to adding at least a part-time assistant to the Information Center staff.

The budget required to carry out information dissemination activities in Phase I should be covered by the savings from the paring of the periodical subscriptions coupled with the reduction in computer systems expenditures once the Control Data contract has been terminated. It is impossible to estimate what the Phase II information dissemination budget requirements would be without knowing what strategy will be adopted and how it will be executed. A word of reassurance is perhaps in order here:

There is often reluctance on the part of any project management (both A.I.D. and contractor) to actively undertake information dissemination. This reluctance is based on the incorrect perception that an active dissemination effort will result in a barrage of information requests that there will be neither staff nor money to cover. Visions of reams of photocopies and endless database searching, not to mention unbearable postage costs, dance through the collective management head. Experience has proven these nightmares are unfounded. The main audience of this and any A.I.D. funded information center is made up of program-oriented individuals and institutions primarily located in the Third World, not a group that can be characterized as demanding users. The Information Center is not the equivalent of suburban library offering free services to an information savvy public nor of a university research center feeding graduate student data junkies.

The emphasis has been placed on information dissemination in this report precisely because the <u>best</u> efforts of this type of information center are necessary for even minimal results. Like all other aspects of development activity, information is climbing a steep and slippery slope.

APPENDIX 1

Tables

1. Summary of VBC Activities by Category
2. Vector Biology & Control Project
3. Master List of Projects
4. Vector Biology & Control Project Activities (by country)
5. Buy-in/Central Funds

Figure 1 - Vector Biology & Control Pasa Expenditures

TABLE 1

SUMMARY OF VBC ACTIVITIES BY CATEGORY

	NUMBER OF ACTIVITIES				PERSON DAYS EFFORT	REGIONAL FOCUS			
	TOTAL	CENTRALLY FUNDED	BUY-IN	COSTS (X1000)		LAC	ANE	AFR	OTHER
Technical Assistance	83	62	21	2,352	3,782	35	30	16	2
Operations Research (TA subset)	[21]	[18]	[3]	[428]	[956]	[8]	[6]	[7]	-
Human Resource Development	28	21	7	663	930	5	15	3	5
Information	34	28	6	558	924	2	6	2	25 (central/ global)
Administration and Project Planning	16	16	N/A	861	1,080	N/A	N/A	N/A	central

TABLE 2

VECTOR BIOLOGY & CONTROL PROJECT

MASTER ACTIVITY LIST

S :ember 1, 1985 - May 24, 1988

ACTIVITY #	QUART	COUNTRY	DESCRIPTION	ACTIVITY MANAGER
_P-001	1st	U.S. Central	Project Planning	Lennox, R
LP-002	1st	U.S. Central	Physical Plant	Schmidt, R
LP-003	1st	U.S. Central	Office Procedures	Schmidt, R
_P-004	1st	U.S. Central	Staff Recruitment	Schmidt, R
_P-005	1st	U.S. Central	Computer Center	Silverman, B
LP-006	1st	U.S. Central	Information Ctr. Requests	Auston, I
_P-007	1st	U.S. Central	Data Bases	Silverman, B
_P-008	1st	U.S. Central	Roster (VCBNET)	Silverman, B
LP-009	2nd	U.S. Central	TAC 1st Meeting	Arata, A
LP-010	LP	U.S. Global	VBC Travel	Schmidt, R
_P-011	LP	U.S. Central	Seminar Series	Lacey, L
LP-012	LP	U.S. Central	Newsletter	Simon, C
LP-013	4th	U.S. Central	TAG 1st Meeting	Arata, A
_P-014	4th	U.S. Central	TAC 2nd Meeting	Arata, A
_P-015-2	1st	U.S. Central	Management Review Report	Lennox/Simon
LP-016-2	1st	U.S. Central	Annual Work Plan Yr. 2	Arata/Lennox
_P-017-2	2nd	U.S. Central	TAC 3rd Meeting	Lennox/Arata
_P-018	LP	U.S. Central	Contractual Reports	VBC Staff
LP-019	LP	U.S. Central	Public Information	VBC Staff
LP-020-2	8th	U.S. Central	TAC 4th Meeting	Lennox/Arata
[illegible]021-2	8th	U.S. Central	TAG 2nd Meeting	Lennox/Arata
LP-022-2		U.S. Central	Intern Program	Lennox/Arata
LP-023-3		U.S. Central	Emergency Info. Response	VBC Staff
_P-025-3		U.S. Central	Annual Work Plan Yr. 3	
_P-026-3		U.S. Central	Technical Advisory Comt. #5	
LP-027-3		U.S. Central	Technical Advisory Group #3	
LP-028-3		U.S. Central	Technical Advisory Comt. #6	
_P-029-3		U.S. Central	VBC Mid-term Evaluation	VBC Staff
LP-030-3		U.S. Central	Info Ct. Abstracting	Auston, I
LP-031-3		U.S. Central	VBC Staff Conf./Lectures	VBC Staff

ACTIVITY REACTIVE

AR-001	3rd	Sri Lanka *	Malaria Evaluation	Lennox, R
AR-002	2nd	Mexico	Dengue Fever Model	Silverman, B
AR-003	1st	Honduras	Dengue Fever/Planning	Lacey, L
AR-004		Pakistan	Canceled	Lacey, L
AR-005	4th	Thailand	Malaria Control	Lennox, R
AR-006	2nd	Burma	Malaria Eval/Need Assess.	Lennox, R
AR-007		Zaire	Malaria Assessment	Lennox, R
AR-008	4th	Kenya	Needs Assessment	Lennox, R
AR-009	3rd	Bolivia	Needs Assessment	Arata, A
AR-009A	3rd	Ecuador	Needs Assessment	Arata, A
AR-010		Yemen	Malaria/Assess./Canceled	Lacey, L
AR-011	3rd	Zanzibar *	Malaria Project Eval.	Lennox, R
AR 012	2nd	Haiti	Malaria Control/Planning	Arata, A
A[illegible] 013	3rd	Nepal	Malaria Control	Lacey, L

AR-014	2nd	Thailand	Needs Assessment	Lennox, R
AR-015	3rd	El Salvador	Malaria Control/Review	Arata, A
AR-016	4th	Domin Rep	Malaria Control/Planning	Arata, A
AR-017	4th	Honduras	Malaria Transmission	Lacey, L
A 018	3rd	Pakistan	Malaria Need Assessment	Lacey, L
AR-019	4th	Haiti	Malaria Control/Planning	Arata, A
AR-020	4th	Bolivia	Malaria/Insecticide Eval.	Arata, A
AR-021	4th	Honduras	Malaria Transmission	Lacey, L
AR-022-2	4th	Belize *	Malaria Evaluation	Arata, A
AR-023	4th	Nepal	Malaria Transmission/TA	Lacey, L
AR-024-2	6th	Nepal *	Develop Training Plan	Lacey L
AR-025-2	6th	Nepal *	Malaria Resistance Inv.	Lacey L
AR-026-2	Yr 2	Nepal *	Malaria Transmission	Lacey L
AR-027-2	Yr 2	Burma *	Workshop PHC Sys. in VBDC	Lennox, R
AR-028-2	Yr 2	Burma *	Train Applied Fld. Res.	Lennox, R
AR-029-2	Yr 2	Burma *	Asst. Entomologist Course	Lennox, R
AR-030-2	1st	Haiti	Malaria Control/Planning	Arata, A
AR-031-2	1st	Guatemala	Health Sector Assessment	Arata, A
AR-032-2	1st	Pakistan	Alternative Ctr. Workshop	Lacey,L
AR-033-2	1st	Chad	Irrig. Proj.Impact on VBD	Arata, A
AR-034-2	1st	Egypt	Schisto. Proj. Wk Scopes	Lennox, R
AR-035-2	2nd	Kenya	KEMRI Trng. Op. Research	Lennox, R
AR-036-2	2nd	Egypt *	Schisto. Proj. PP Design	Lennox, R
AR-037-2	5th	Ecuador	Malaria Control Project	Arata, A
AR-038-2	5th	Guatemala	Malaria Control/Proposed	Arata, A
AR-039-2	5th	El Salvador	Malaria Control	Arata, A
AR-040-2	1st	Egypt	Needs Assessment	Lennox, R
AR-041-2	2nd	Ecuador *	Aedes Control/Guayaquil	Arata, A
AR-042-2	2nd	Ecuador *	Malaria Computerization	Arata, A
A 043-2	2nd	Ecuador *	Malaria Evaluation	Arata, A
A 044-2	2nd	Ecuador *	Malaria Vector Incrim.	Arata, A
AR-045-2	2nd	U.S. Central	IEE Guidelines	Arata, A
AR-046-2	6th	U.S. Central	Disease Strategy Papers	Arata, A
AR-047-2	6th	New Guinea	Needs Assessment	Lacey, L
AR-048-2	5th	LAC Region	LAC Review PAHO Strategy	Arata, A
AR-049-2	6th	Sri Lanka *	Buyin/Activity Planning	Arata, A
AR-050-2	6th	Zanzibar *	Survey&Control Urban Mosq.	Arata, A
AR-051-2		Ivory Coast	Onchocerciasis Survey	Lennox, R
AR-052-2	7th	Swaziland	Assess Health Impact VBD	Lacey, L
AR-053-2	6th	Pakistan	Malaria Control Evaluation	Lacey, L
AR-054-2	7th	Indonesia	Malaria Evaluation	Lacey, L
AR-055-2	7th	Indonesia	Operations Research	Lacey, L
AR-056-2		ANE Region	Vector Borne Dis. Strategy	Arata, A
AR-057-2		Sri Lanka *	Malaria Control Project	Arata, A
AR-058-2		Ecuador *	Malaria Project Advisor	Arata, A.
AR-059-2	7th	Nigeria	Guinea Worm Assessment	Arata/Lennox
AR-060-2		Pakistan *	Malaria Project Extension	Lacey, L
AR-061-3		Nepal	Identification Key	Lacey, L
AR-062-3		Nepal	Arbovirology Course	Lacey, L
AR-063-2		Nepal	Data Management Assessment	Silverman/Lacey
AR-064-2		Ecuador *	Commodity Procure Assist.	Arata, A
AR-065-2		U.S. Central	HPN/SOTA Course	Lennox, R
AR-066-3		El Salvador*	Malaria Health System Sup.	Arata, A
AR-067-3		New Guinea	Workshop IPM Vec. Mosquitos	Lacey, L
AR-068-3		Bolivia	Child Survial & Malaria	Arata, A
A 069-3		Ecuador *	Continued Computerization	Silverman/Arata

AR-070-3	Ecuador *	Community Participation	Arata, A
AR-071-3	Ecuador *	Malaria Control Proj. Eval.	Arata, A
AR-072-3	India	Needs assessment	Lacey, L
AR-073-3	Ecuador	Planning Malaria Control	Arata, A
A 074-3	Nepal *	Cont'd Malaria Computeriz.	Lacey, L
A. 075-3	Indonesia	Malaria/Comm. Part. Stdy.	Lacey, L
AR-076-3	Kenya	Con't. KEMRI/Harvard TA	Lennox, R
AR-077-3	Burma	Workshop for Health Off.	Lennox, R
AR-078-3	Egypt *	Development of Proj. Paper	Lennox, R
AR-079-3	Egypt *	Pre Schisto. Project Set up	Lennox, R
AR-080-3	Ecuador *	Vector Resis./Insecticide	Arata, A
AR-081-3	Ecuador *	SNEM Training Pesticides	Arata, A
AR-082-3	Bolivia	Train Aux Med Entomolog'ts	Arata, A
AR-083-3	Morocco	Cholinesterase Monitoring	Arata, A
AR-084-3	US Central	WHO/Oncho Rev. Tech. Doc.	Lacey, L
AR-085-3	AFR Region	Vector Borne Dis. Strategy	Lennox, R
AR-086-3	Cameroon *	Evaluation Schisto. Project	Lennox, R
AR-087-3	Nepal	Multi-Donor Eval. Malaria C	Lacey, L
AR-088-3	Pakistan	Abatement Entomology Training	
AR-089-3	Nepal *	Malaria Transmission Con't.	Lacey, L
AR-090-3	Mauritania	Needs Assessment (3 VBD).	Lennox, R
AR-091-3	Dominion Rep	Denge Fever Assesment	Arata, A
AR-092-3	Morocco *	Insecticide Monitoring	Arata, A
AR-093-3	Honduras	EA Health Sec. II PP	Arata, A
AR-094-3	Sri Lanka *	Data Management	Arata/Silverman
AR-095-3	" " *	Ento. Trainin IVC Design	Arata, A
AR-096-3	" " *	Epidemiological Upgrading	Arata, A
AR-097-3	" " *	Malaria Project Evaluation	Arata, A
AR-098-3	Cameroon	Biological Contrl (Marisca)	Lennox, R

COLLABORATIVE EFFORTS

CE-001	4th	Regional	WHO/PAHO/CDC Training Pl.	Lennox, R
CE-002	LP	U.S. Central	Data Base Network	Silverman, B
CE-003	4th	U.S. Global	Agreement Exchange	Silverman, B
CE-004	4th	Cameroon	Needs Assessment	Lennox, L
CE-005	2nd	Sri Lanka	Malathion Fire	Silverman, B
CE-006	3rd	Burma	Design Entomology Course	Lennox, R
CE-007	4th	Canada	WHO/Bio Contr Disease	Arata, A
CE-008	4th	Thailand	Malaria Conference Sup.	Lennox/Lacey
CE-009	4th	Mexico	PAHO/Entomology Protocol	Lacey, L
CE-010	4th	Cameroon	Guinea Worm	Arata, A
CE-011	4th	African Reg	OCP Collaboration Plan	Lennox, R
CE-012	4th	Central Am	PAHO Protocol Mtg.	Lacey, L
CE-013	4th	Nigeria	WHO, PEEM and TVA	Canceled
CE-014-2	1st	Burma *	Medical Entomology Course	Lennox, R
CE-015-2	1st	Burma *	Reference Library List	Lennox/Auston
CE-016-2	1st	U.S. Central	CDC Training Film	Arata, A
CE-017-2	1st	African Reg	OCP/Non-target Fauna	Arata, A
CE-018-2	1st	U.S. Central	Present Paper SOVE Mtg.	Lennox, R
CE-019-2	1st	Central/Reg	Guinea Worm - Meeting	Arata, A
CE-020-2	5th	Philippines	WHO Conference	Arata, A
CE-021-2	6th	Barbados	Aedes/PAHO/Carib. Workshop	Arata/Lacey
CE-022-2	7th	U.S. Central	Guinea Worm Information	Auston, I
C 023-2	8th	Burma	Course Evaluation WHO/VBC	Lennox, R

CE-024-3	Guatemala	Insecticide Ressist WHO/VBC	Arata, A
CE-025-3	Burkina Faso	Guinea Worm CDC/VBC	Arata, A
CE-026-3	Nigeria	GW Impact on Agriculture	Arata, A
CE-027-3	U.S. Central	Wrkshp "Community Partic."	Arata, A
CE-028-3	Central Am.	Wrkshp Resis./Insect.(PAHO)	Arata, A
CE-029-3	AFR Region	Conf/WkShop on GW (Accra)	Lennox, R
CE-030-3	Barbados	PCV Training/Malaria Contr.	Lacey, L

PROACTIVE ACTIVITIES

PA-001	2nd	U.S. Global	Doc. Perspectives on VBDs	Lennox, R
PA-002	3rd	U.S. Global	Commercial Documents	Arata, A
PA-003		U.S. Central	Public Audio Visual	Silverman, B
PA-004		U.S. Global	Publication Bio. Control	Lacey, A
PA-005		U.S. Global	Training Material	Arata, A
PA-006		U.S. Global	Resource Document SS/VBC	Arata, A
PA-007	4th	U.S. Global	Information Exchange	Silverman, B
PA-008		U.S. Central	Cost/Benefit Analysis	Silverman, B
PA-009		U.S. Global	Malaria Field Trial	Silverman, B
PA-010		U.S. Global	Immunodiagnostic Kit	Silverman, B
PA-011		Togo	Canceled	Lennox, R
PA-012	2nd	U.S. Global	VBD Questionnaire/C.Shiff	Lennox, R
PA-013	2nd	U.S. Global	Oncho Paper/C.Shiff	Lennox, R
PA-014	4th	Europe	Lacey/Silverman Mtg.	Lacey, L
PA-015	4th	U.S. Global	Doc. Alt. Method Controls	Lacey, L
PA-016	4th	U.S. Global	Doc. Bio. Ctr. Rice Fld.	Lacey, L
PA-017	4th	U.S. Central	Spanish Trans. Brochure	Arata, A
PA-018	4th	U.S. Global	Mission Health Off. Brief	Lennox, R
PA-019	4th	U.S. Global	Computer Malaria Epid.	Arata, A
PA-020-2	4th	El Salvador	Needs Assessment	Arata, A
PA-021-3	11	Kenya	KEMRI/HARVARD	Arata, A
PA-022-2	11	Honduras	Tulane Insecticide Paint	Lacey, L
PA-023-2	1st	U.S. Central	V World Congress Meeting	Lennox, R
PA-024-2	3rd	U.S. Central	AMCA Meeting	Arata/Lacey
PA-025-2		U.S. Central	Country Profiles	Silverman, B
PA-026-2	2nd	Liberia	Oncho/Ivermectin	Arata, A
PA-027-2	8th	U.S. Global	Worldwide Telex Fy 88	Lennox, R
PA-028-3		U.S. Central	Boston Trip I.A.	Auston, I
PA-029-3		U.S. Central	Am. Soc. Trop. Med. & Hyg.	Lennox/Lacey
PA-030-3		U.S. Central	JHU Lecture	Lacey, L
PA-031-3		Liberia	Johns Hopkins Oncho. Con't.	Lennox, R

* Denotes Mission Buyin activities.

TOTAL ACTIVITY PERSON DAYS

001	Nigeria	Control Yellow Fever Epid.
-002	Burma	TA Malaria Control
T-006	India	FIC/USAID/WHO Workshop VB Control
-008	Sudan	Africa Document
-009	Pakistan	Entomoloy Training in U.S.

TABLE 3 MASTER LIST OF PROJECTS

VECTOR BIOLOGY AND CONTROL PROJECT ACTIVITIES

SEPTEMBER 1985 - MAY 1988

ACTIVITY #	QUARTER	DESCRIPTION	COUNTRY	PERSON DAYS	BUDGET	ACTUAL TO DATE	STATUS
AR-001-1	1	SRI LANKA - EVALUATE USAID COMPONENT ANTI MALARIA CAMPAIGN	Sri Lanka	120	41124.00	42922	C
AR-002-1	2	MEXICO-RISK ASSESSMENT MODEL-HIGH RISK AREAS FOR DENGUE EPIDEMICS	MEXICO	9	2721.00	2658	C
AR-003-1	5	HONDURAS - ENTOMOLOGICAL & SERIOLOGICAL STUDIES ON DENGUE	HONDURAS	5	740.00	740	C
AR-004-1	1	PAKISTAN - FIELD TRIALS OF NEW LARVICIDES FOR ANOPHELINES	PAKISTAN	0	0.00	0	X
AR-005-1	2	THAILAND - MALARIA CONTROL PLANNING	THAILAND	76	21724.00	22271	C
AR-006-1	2	BURMA-PLAN VBC COMPONENT W/ PROJ STRENGTHENING HEALTH CARE SYSTEM	BURMA	10	3850.00	3940	C
AR-007-1		ZAIRE - ASSESSMENT OF VECTOR CONTROL OPERATIONS	ZAIRE	0	0.00	0	X
AR-008-1	2	KENYA - ASSESSMENT OF VBD CONTROL EFFORTS	KENYA	5	2947.00	3116	C
AR-009-1	3	BOLIVIA-REVIEW OF VECTOR CONTROL PROGRAMS	BOLIVIA	10	2738.00	3623	C
AR-009-A	3	ECUADOR - VIEW OF VECTOR CONTROL PROGRAMS	ECUADOR	10	2937.00	3439	C
AR-010-1	4	YEMEN - MALARIA TRANSMISSION RESEARCH	YEMEN	0	0.00	0	3
AR-011-1	3	TANZANIA/ZANAIBAR - EXTERNAL REVIEW PROJECT (621-0163)	ZANZIBAR/TANZAN	49	19336.00	19336	C
AR-012-1	2	HAITI: MALARIA CONTROL EXTERNAL REVIEW	HAITI	11	3686.00	3686	C
AR-013-1	3	NEPAL - MULTI-DONOR REVIEW OF MALARIA CONTROL PROGRAM	NEPAL	42	16717.00	16718	C
AR-014-1	1	THAILAND: NEEDS ASSESSMENT	THAILAND	10	4495.00	4495	C
AR-015-1	3	EL SALVADOR-REVIEW HEALTH SYSTEMS SUPPORT PROJECT DESIGN #519-0308	EL SALVADOR	17	5985.00	8629	C
AR-016-1	3	DOMINICAN REPUBLIC-PROJECT PAPER MALARIA-ALTERNATE MEANS OF CONTROL	DOM. REPUBLIC	17	5930.00	6225	C
AR-017-1	4	EXTRA DOMICILIARY TRANSMISSION OF MALARIA	HONDURAS	31	12000.00	9621	C
AR-018-1	3	PAKISTAN-NEEDS ASSESS-FIELD TRIALS OF NEW LARVICIDES FOR ANOPHELENE	PAKISTAN	11	3399.00	3399	C
AR-019-1	4	HAITI - PARTICIPATE IN NATIONAL (GOH) MALARIA CONTROL REVIEW	HAITI	18	5896.00	7670	C
AR-020-1	4	BOLIVIA - DETERMINE SUSCEPTIBILITY OF VECTORS TO DDT	BOLIVIA	36	11319.00	11885	C

VECTOR BIOLOGY AND CONTROL PROJECT ACTIVITIES

SEPTEMBER 1985 - MAY 1988

ACTIVITY	QUARTER	DESCRIPTION	COUNTRY	PERSON DAYS	BUDGET	ACTUAL TO DATE	STATUS
AR-021-1	4	HONDURAS - EXTRA DOMICILIARY HUMAN BITING BY ANOPHELES ALBIMANUS	HONDURAS	59	19670.00	19670	C
AR-022-2	6	BELIZE-INCREASED PRODUCTIVITY THROUGH BETTER HEALTH-505-0018	BELIZE	43	18000.00	16615	C
AR-023-2		NEPAL - MALARIA TRANSMISSION INVESTIGATION CHANGED TO AR-026-2	NEPAL	0	0.00	0	X
AR-024-2	5	NRPAL - DEVELOPMENT OF TRAINING PROGRAM	NEPAL	32	10587.00	13744	C
AR-025-2		NEPAL - ELUCIDATION OF STATUS OF INSECTICIDE RESISTANCE	NEPAL	0	0.00	0	X
AR-026-1	4	NEPAL-ASSESS ENTOMOL. ASPECTS OF MALARIA TRANSMISSION FAR WEST NEPAL	NEPAL	38	12601.00	8296	C
AR-030-2	5	HAITI - AMENDMENT TO PROJECT PAPER ON MALARIA CONTROL	HAITI	89	30080.00	33504	C
AR-031-2	4	GUATEMALA - HEALTH SECTOR ASSESSMENT	GUATEMALA	9	3325.00	3325	C
AR-033-2	4	CHAD IRRIGATION IMPACT ON VECTOR BORN DISEASES	CHAD	52	51185.00	30064	C
AR-034-2	5	SCHISTOSOMIASIS PROJECT - SCOPE OF WORK FOR PROJECT PAPER TEAM	EGYPT	38	18028.00	17746	C
AR-035-2	2	KENYA-DEVELOPMENT & IMPLEMENTATION OF OPERATIONAL RESEARCH PROGRAM	KENYA	88	35214.00	35924	C
AR-036-2	6	EGYPT - SCHISTOSOMIASIS PROJECT PAPER DESIGN	EGYPT	875	470000.00	400000	A
AR-037-2	7	ECUADOR-4 PROPOSED MALARIA CONTROL ACTIVITIES #518-0049	ECUADOR	20	5099.00	5354	C
AR-038-2	1	GUATEMALA - MALARIA CONTROL	GUATEMALA	0	0.00	0	X
AR-039-2		EL SALVADOR-EVAL-ENVIRONMENTAL MODIFICATION-CTRL ANOPHELENE VECTORS	EL SALVADOR	0	0.00	0	X
AR-040-2	4	EGYPT NEEDS ASSESSMENT	EGYPT	10	2933.00	3000	C
AR-041-2	6	ECUADOR: AEDES CONTROL IN GUAYAQUIL/ECUADOR #518-0049	ECUADOR	0	0.00	0	X
AR-042-2	6	ECUADOR:COMPUTERIZATION OF MALARIA DATA SYSTEM/ECUADOR #518-0049	ECUADOR	64	41633.00	36344	C
AR-043-2	6	ECUADOR: FIRST EVALUATION OF MALARIA PROJECT/ECUADOR #518-0049	ECUADOR	77	29026.00	24362	C
AR-044-2	6	ECUADOR - MALARIA VECTOR INCRIMINATION #518-0049 (TWO TRIPS)	ECUADOR	73	13453.00	24062	C
AR-045-2	6	S&T/H-WDC - ENVIRONMENTAL GUIDELINES FOR USAID MISSION OFFICER	USAID/WDC	10	8312.00	3000	A

VECTOR BIOLOGY AND CONTROL PROJECT ACTIVITIES

SEPTEMBER 1985 - MAY 1988

ACTIVITY	QUARTER	DESCRIPTION	COUNTRY	PERSON DAYS	BUDGET	ACTUAL TO DATE	STATUS
AR-046-2	6	US:PREPARATION OF VBD BACKGROUND AND STRATEGY PAPERS	USA	50	24775.00	26014	C
AR-047-2	7	PAPUA NEW GUINEA: NEEDS ASSESSMENT	PAPUA NEW GUINE	10	5642.00	3917	C
AR-048-2	9	REGIONAL:VBD STATS IN LAC COUNTRIES, REV. OF PAHO POLICIES/STRATEGY	REGIONAL	10	14725.00	2500	A
AR-049-2	6	SRI LANKA DISCUSSIONS USAID/COLOMBO RE: VBC BUYIN MALARIA CONTROL	SRI LANKA	9	4306.00	4521	C
AR-050-2		ZANZIBAR: SURVEY AND CONTROL URBAN MOSQUITO BREEDING	TANZANIA/ZANZIB	26	11558.00	11609	C
AR-051-3	9	IVORY COAST: ASSESSMENT OF ONCHO IN "SAVANIZED" FOREST ZONE	IVORY COAST	78	42843.00	44598	C
AR-052-2	10	SWAZILAND: MALARIA CONTROL PRACTICES ASSESSMENT	SWAZILAND	31	12423.00	13044	C
AR-053-2	7	PAKISTAN: MALARIA CONTROL II PROJECT TERMINAL EVALUATION	PAKISTAN	31	14071.00	11025	C
AR-054-2	9	INDONESIA: FINAL EVAL. OF WEST TIMOR MALARIA CONTROL PROJECT	INDONESIA	31	12132.00	12739	C
AR-055-2	9	INDONESIA: OPERATIONS RESEARCH	INDONESIA	48	10039.00	10541	C
AR-056-2	6	REGIONAL: VBD STRATEGY FOR ASIA/NEAR EAST AID BUREAU	REGIONAL	28	14452.00	10744	A
AR-057-2	6	SRI LANKA-ASSIST USAID MALARIA CONTROL PROJECT	SRI LANKA	20	148958.00	15000	A
AR-058-2	8	ECUADOR: ADVISOR FOR ECUADOR MALARIA CONTROL PROJECT #518-0049	ECUADOR	122	50913.00	60653	C
AR-059-2	6	US/GLOBAL: EPIDEMIOLOGY AND CONTROL OF GW DISEASE & ONCHO IN NIGERIA	NIGERIA	8	1083.00	2330	C
AR-060-2	8	PAKISTAN: MALARIA PROJECT DESIGN - AMMENDMENT	PAKISTAN	86	22905.00	30090	C
AR-061-3	8	NEPAL: CONST. OF IDENTIFICATION KEYS FOR CULICINE LARVAE OF NEPAL	NEPAL	45	22757.00	22757	C
AR-063-3	9	NEPAL: DATA MANAGEMENT NEEDS ASSESSMENT	NEPAL	17	17173.00	10649	C
AR-064-2	8	ECUADOR: COMODITY PROCUREMENT ASSISTANCE (MALARIA PROJ/MGT ECUADOR)	ECUADOR	33	13224.00	15805	C
AR-066-3	9	EL SALVADOR: MALARIA HEALTH SYSTEMS SUPPORT/ADISOR	EL SALVADOR	192	235039.00	85000	A
AR-067-3	9	PAPUA N.G.:WKSHP INTEG. VECTOR MGT-URBAN SETTINGS-COMMUNITY PARTIC	PAPUA NEW GUINE	10	45185.00	2500	A
AR-068-3	9	BOLIVIA:PLAN MALARIA ACTIVITIES IN RELATION TO CHILD SURVIVAL & PHC	BOLIVIA	17	10591.00	9826	C

VECTOR BIOLOGY AND CONTROL PROJECT ACTIVITIES

SEPTEMBER 1985 - MAY 1988

ACTIVITY	QUARTER	DESCRIPTION	COUNTRY	PERSON DAYS	BUDGET	ACTUAL TO DATE	STATUS
AR-069-3	9	ECUADOR: COMPUTERIZATION OF MALARIA DATA SYSTEM (CONTIUATION AR-042-2)	ECUADOR	86	36117.00	34358	C
AR-070-3	9	ECUADOR: TECHNICAL ASSISTANCE FOR COMMUNITY PARTICIPATION	ECUADOR	26	12951.00	9504	C
AR-071-3	7	ECUADOR: MALARIA CONTROL PROJECT EVAULATION	ECUADOR	5	38256.00	1500	A
AR-072-3	9	INDIA: NEEDS ASSESSMENT: DATA MGT & OPERATIONAL RESEARCH	INDIA	16	14231.00	10696	C
AR-073-3	9	ECUADOR:REVIEW AND PLAN VBC MALARIA CONTROL ACTIVITIES	ECUADOR	11	6307.00	6913	C
AR-074-3	7	NEPAL: CONTINUED MALARIA DATA INFORMATION COMPUTERIZATION	NEPAL	35	19273.00	15000	A
AR-075-3	8	INDONESIA:PILOT STUDY ON COMMUNITY PARTICIPATION IN MALARIA CONTROL	INDONESIA	34	21247.00	21500	C
AR-076-3	7	KENYA: FOLLOW-UP ON ASSISTANCE TO KEMRI KISUMU VBCRC	KENYA	81	60000.00	53225	A
AR-077-3	9	BURMA: WORKSHOP-CLINICAL MGT OF SEVERE & COMPLICATED MALARIA	BURMA	5	18801.00	0	A
AR-078-3	8	USAID/CAIRO-CONCEPT PAPER/PID-CTRL OF SCHISTO IN AGRICULTURAL AREAS	EGYPT	10	156075.00	1500	A
AR-079-3	9	EGYPT:PRE-PROJECT ASSIST-USAID/CAIRO S&T-SCHISTO RESEARCH PROJECT	EGYPT	5	107384.00	1500	A
AR-080-3	9	ECUADOR-LONG TERM PLAN FOR VECTOR RESISTANCE TO INSECTICIDES	ECUADOR	0	0.00	0	X
AR-083-3	9	MOROCCO-CHOLINESTERASE MONITORING OF OP INSECTICIDES	MOROCCO	3	1168.00	1168	C
AR-084-3	10	US - REVIEW OF TECHNICAL DOCUMENT ON ONCHOCERCIASIS	USA	6	2077.00	2077	C
AR-085-3	10	AFRICAN REGIONAL: VECTOR-BORNE DISEASE STRATEGY	REGIONAL	5	10380.00	2500	A
AR-086-3	10	CAMEROON: EXTERNAL EVAL. OF CONSTRAINTS TO RURAL RPODUCTION PROJECT	CAMEROON	66	40713.00	15500	A
AR-087-3	10	NEPAL: MULTI-DONOR EVALUATION OF MALARIA CONTROL PROGRAM	NEPAL	21	16201.00	16201	C
AR-088-3	10	PAKISTAN: SHORT-TERM TRAINING FOR ENTOMOLOGISTS-MOSQU.CTRL DISTRICTS	PAKISTAN	6	4341.00	2500	A
AR-089-3	11	CONTINUATION MALARIA TRANSMISSION (AR-026-2)	NEPAL	31	15695.00	12000	A
AR-090-3	11	NEEDS ASSESMENT ON THE THREE MAJOR VECTOR BORNE DISEASES	MAURITANIA	0	0.00	0	A

VECTOR BIOLOGY AND CONTROL PROJECT ACTIVITIES

SEPTEMBER 1985 - MAY 1988

ACTIVITY	QUARTER	DESCRIPTION	COUNTRY	PERSON DAYS	BUDGET	ACTUAL TO DATE	STATUS
AR-091-3	11	DOMINCAN REPUBLIC:ASSIST GODR-EMER PLAN-DENGUE FEVER OUTBREAKS	DOM. REPUBLIC	39	18674.00	0	A
AR-092-3	11	USE OF MARISA SNAIL AS BIOLOGICAL CONTOL AGENTS FOR SCHISTOSOMIASIS	CAMEROON	6	2981.00	0	A
AR-093-3	11	ENVIROMENTAL ASSESSMENT (EA)FOR VECTOR CONTROL FOR HPII PP	HONDURAS	95	48553.00	0	A
AR-094-3	11	DATA MANAGEMENT (PIO/T 383-043-3-57029)	SRI LANKA	70	47464.00	0	A
AR-095-3	11	ENTOMOLOGICAL TRAINING AND INTERGRATED VECTOR CONTROL	SRI LANKA	76	45234.00	0	A
AR-096-3	11	EPIDEMIOLOGICAL UPGRADING	SRI LANKA	122	38900.00	0	A
AR-097-3	11	PARTICIPATION IN MULTI-DONOR REVIEW	SRI LANKA	30	26536.00	0	A
CE-001-1	1	DEVELOPMENT OF COLLABORATIVE PROGRAMS W/ WHO/PAHO/CDC IN TRAINING	REGIONAL	0	0.00	0	X
CE-002-1	1	DEVELOPMENT OF DATA BASE NETWORK	GLOBAL	48	13000.00	13000	C
CE-003-1	1	WHO/PAHO/MCCONNEL-CLARK FOUNDATION-EXCHANGE AGREEMENTS/DOCUMENTATION	GLOBAL	15	25200.00	12520	C
CE-004-1	1	TULANE - CONTROL OF DRACUNCULIASIS IN CAMEROON	CAMEROON	0	0.00	0	X
CE-005-1	2	EPA - SRI LANKA - CONTAINING MALATHION FIRE IN GOSL/AMC WAREHOUSE	SRI LANKA	17	9856.00	10349	C
CE-009-1	4	MEXICO - PAHP/MALARIA	MEXICO	5	1236.00	1298	C
CE-010-2	5	AID/WASH/CDC GUINEA WORM: EPIDIMIOLOGICAL ASSESSMENT IN CAMEROON	CAMEROON	3	525.00	525	C
CE-011-1	4	OCP/USAID/TULANE-NEEDS ASSESSMENT-FIELD FACILITY IN CAMEROON	AFRICA	20	9899.00	9899	C
CE-012-2	4	MEXICO - PAHO/USAID PROTOCOL MEETING	MEXICO	7	1996.00	2096	C
CE-016-2	5	USA - CDC - PRODUCTION OF TRAINING FILMS ON AEDES ALBOPICTUS	US CENTRAL	27	6612.00	6943	C
CE-017-2	5	W.AFRICA-ASSESS OCP EXPANSION AREA PRIOR TO INSECTICIDE SPRAYING	AFRICA	66	22755.00	18248	C
CE-019-2	5	WASH-FEASIBILITY STUDY - BROAD-SCALE GUINEA WORM CONTROL IN AFRICA	US	8	3020.00	3350	C
CE-020-2	7	PHILIPPINES:ATTEND WORKSHOP ON RICE FIELD VECTORS OF HUMAN DISEASES	PHILIPPINES	9	4150.00	4358	C

VECTOR BIOLOGY AND CONTROL PROJECT ACTIVITIES

SEPTEMBER 1985 - MAY 1988

ACTIVITY #	QUARTER	DESCRIPTION	COUNTRY	PERSON DAYS	BUDGET	ACTUAL TO DATE	STATUS
CE-021-2	7	BARBADOS:PAHO:WORKSHOP ON AEDES-BORNE EPIDEMICS IN CARIBBEAN	BARBADOS	23	25000.00	33762	C
CE-023-2	8	BURMA: ENTOMOLOGY COURSE EVALUATION AND REVIEW	BURMA	14	2675.00	4233	C
CE-024-3	6	GUATEMALA:PLAN WHO/PAHO ACTIVITY ON REGIONAL INSECTICIDE RESISTANCE	GUATEMALA	16	6414.00	10557	C
CE-025-2	6	BURKINA FASO: PREPARE NAT'L PLAN FOR CONTROL OF GUINEA WORM DISEASE	BURKINA FASO	15	1134.00	1134	C
CE-026-3	10	NIGERIA-IMPACT OF GUINEA WORM DISEASE ON AGRICULTURAL PRODUCTIVITY	NIGERIA	73	28731.00	30318	C
CE-027-3	9	WORKSHOP: COMMUNITY PARTICIPATION IN MALARIA CONTROL PROGRAMS	US	29	19560.00	10830	C
CE-029-3	10	GHANA: SECOND REGIONAL GUINEA WORM CONFERENCE (ACCRA).	GHANA	6	3000.00	2180	C
CE-030-3		BARBADOS:TRAINING-MOSQUITO CONTROL FOR PEACE CORPS VOLUNTEERS	BARBADOS	2	5491.00	750	A
LP-001	1	USA: GENERAL TECHNICAL AND ADMINISTRATIVE ACTIVITIES	USA	60	85000.00	85000	C
LP-001-2	IN	USA: GENERAL TECHNICAL AND ADMINISTRATIVE ACTIVITIES	USA	60	78450.00	78450	C
LP-001-3		USA: GENERAL TECHNICAL AND ADMINISTRATIVE	USA	60	149700.00	95000	A
LP-002-3		USA: MAINTAINING OFFICE (PHYSICAL PLANT)	USA	90	168000.00	128000	A
LP-003-3		USA: CONTINUE TO DEVELOP/MAINTAIN OFFICE PROCEDURES AND POLICIES	USA	50	18811.00	10100	A
LP-004		MAINTAIN VBC PERSONNEL & OFFICE STAFF	USA	20	5600.00	4000	C
LP-005-3		MAINTENANCE OF COMPUTER CENTER (LOCAL AREA NETWORK & TELECOM)	US CENTRAL	250	199563.00	166302	A
LP-007		USA: ESTABLISHMENT & OPERATION OF VBC DATA BASE	USA	3	109000.00	90833	C
LP-008-3	IN	USA: EXPANSION OF VBC CONSULTANT ROSTER (VBCNET)	USA	36	14162.00	9441	A
LP-009	2	USA: MEETING OF TECHNICAL ADVISORY COMMITTEE (TAC)	USA	9	5067.00	5067	C
LP-010		USA: STAFF TRAVEL	USA	0	0.00	0	X
LP-012		USA: VBC NEWSLETTER AND BROCHURE	USA	0	0.00	0	X
LP-013	4	USA: 1ST MEETING VBC TECHNICAL ADVISORY GROUP	US	66	13090.00	13090	C

VECTOR BIOLOGY AND CONTROL PROJECT ACTIVITIES

SEPTEMBER 1985 - MAY 1988

ACTIVITY #	QUARTER	DESCRIPTION	COUNTRY	PERSON DAYS	BUDGET	ACTUAL TO DATE	STATUS
LP-014	4	USA: 2ND MEETING OF VBC TECHNICAL ADVISORY COMMITTEE	USA	20	5017.00	5017	C
LP-015-2	1	USA: MANAGEMENT REVIEW MEETING	US CENTRAL	40	8746.00	8746	C
LP-016-2		USA: PREPARATION OF SECOND ANNUAL WORK PLAN	USA	15	2425.00	2425	C
LP-017-2	6	USA: TECHNICAL ADVISORY COMMITTEE MEETING (TAC III)	USA	23	4846.00	4846	C
LP-020-2		USA: TECHNICAL ADVISORY MEETING #4	USA	34	12700.00	12700	C
LP-021-2		USA: TECHNICAL ADVISORY GROUP #2	USA	51	25466.00	25466	C
LP-022-2		USA: INTERN FELLOWSHIP PROGRAM	US CENTRAL	286	80000.00	14200	A
LP-023-3		USA: EMERGENCY INFORMATION RESPONSE	GLOBAL	5	11748.00	2500	A
LP-025-3	3	USA: PREPARATION OF THIRD ANNUAL WORK PLAN	US CENTRAL	20	7479.00	7479	C
LP-026-3	3	USA: TECHNICAL ADVISORY COMMITTEE MEETING #5	USA	30	11479.00	11479	C
LP-027-3	3	USA: TECHNICAL ADVISORY GROUP MEETING #3	US CENTRAL	41	30474.00	0	A
LP-028-3		USA: TECHNICAL ADVISORY COMMITTEE MEETING #6	US CENTRAL	15	10500.00	0	A
PA-001-1	2	US:DOCUMENT: PERSPECTIVES/CURRENT STRATEGIES FOR THE CONTROL OF VBD	USA	22	5305.00	6463	C
PA-002-1	3	GLOBAL:RESOURCE DOC:COMMERCIALLY AVAILABLE MATERIALS FOR VBD CONTROL	GLOBAL	23	2405.00	4821	C
PA-003-1	2	PUBLICATION: AUDIO VISUAL RESOURCES FOR RAINING IN VBD CONTROL	USA	0	0.00	0	X
PA-004-1	3	PUBLICATION: OPERATIONAL USE OF BIOLOGICAL CONTROL AGENTS	USA	0	0.00	0	X
PA-005-1	3	WORKING DOC:PRIORITIES IN PRODUCTION OF TRAINING MATERIALS-VBD	USA	0	0.00	0	X
PA-006-1	3	SOCIAL SCIENCES IN CONTROL OF VECTOR BORN DISEASES	USA	35	12900.00	11544	C
PA-007-1	4	PUBLICATION: RESOURCE DOC: VBC INFORMATION EXCHANGE	USA	23	14100.00	11072	C
PA-008-1		DEVELOP METHODS USED IN COST/ANALYSIS OF PROGRAMS FOR CONTROL VBD	USA	0	0.00	0	X
PA-009-1		PROPOSAL: ASSIST IN IMPLEM/EVAL OF MALARIA VACCINE FIELD TRIALS	USA	0	0.00	0	X
PA-010-1		ASSIST IN IMPLEMENT/EVALUATE IMMUNODIAGNOSTIC KIT FIELD TRIALS	USA	0	0.00	0	X

VECTOR BIOLOGY AND CONTROL PROJECT ACTIVITIES

SEPTEMBER 1985 - MAY 1988

ACTIVITY #	QUARTER	DESCRIPTION	COUNTRY	PERSON DAYS	BUDGET	ACTUAL TO DATE	STATUS
PA-012-1	2	FIELD DOC: VBD CONTROL COUNTRY PROFILE QUESTIONAIRE	CENTRAL	12	2805.00	2945	C
PA-013-1	2	ONCHO: CURRENT PROBLEMS/RECOMMEND FOR FUTURE ACTIVITIES TO AID	CENTRAL	63	14775.00	15514	C
PA-014-1	4	VCIC INFORMATION COORDINATION SCIENTIFIC PRESENTATION	USA	36	15880.00	14491	C
PA-015-1		RESOURCE DOC:ALTERNATIVES TO SPRAYING FOR CONTROL OF MOSQUITO LARVAE	USA	0	0.00	0	X
PA-016-1	4	RESOURCE DOCUMENT: BIO CONTROL OF MOSQUITOES BREEDING IN RICE FIELDS		0	0.00	0	X
PA-017-1	3	SPANISH TRANSLATION OF VBC BROCHURE	USA	8	525.00	1076	C
PA-018-1	4	USA: MISSION HEALTH OFFICER MEETING, WDC	REGIONAL	5	825.00	866	C
PA-019-1	4	COMPUTERIZED SYSTEM FOR MALARIA EIPDEMIOLOGICAL DATA STORAGE/ANALYS	USA	15	2709.00	3201	C
PA-020-1	4	EL SALVADOR: NEEDS ASSESSMENT/MALARIA/FOLLOW-UP ON AR-015	EL SALVADOR	7	2752.00	2772	C
PA-020-A	4	GUATEMALA: HEALTH SECTOR ASSESSMENT	GUATEMALA	16	3405.00	3405	C
PA-021-3	10	SUB CONTRACT HARVARD-CONTINUED KEMRI ASSISTANCE	KENYA	0	0.00	0	A
PA-022-3	11	CHAGAS' INSECTICIDE IMPREGNATED PAINT WITH SUB-CONTR. TULANE U.	HONDURAS	30	25007.00	0	A
PA-023-2	4	V INTL CONGRESS OF WORLD FEDERATION OF PUBLIC HEALTH ASSOCIATIONS	MEXICO	4	3430.00	651	C
PA-024-2	3	ATTEND ANNUAL MEETING OF AMERICAN MOSQUITO CONTROL ASSOCIATION	USA	7	2920.00	4725	C
PA-025-2	3	COUNTRY SPECIFIC VBD PROFILES	GLOBAL	0	0.00	0	X
PA-026-2	5	LIBERIA: ONCHOCERCIASIS CONTROL/IVERMECTIN/BREEDING SITES	LIBERIA	36	11265.00	12248	C
PA-027-2	8	GLOBAL: WORLDWIDE TELEX #2	GLOBAL	12	4000.00	3783	C
PA-028-3	8	CONFERENCE FOR INFROMATION SYSTEMS	U.S.	6	3000.00	3054	C
PA-029-3	9	USA:ATTEND ANNUAL MEETING/AMER. SOC. OF TROPICAL MEDICINE & HYGIENE	USA	12	8723.00	8901	C
PA-030-3	11	USA:VBC/JHU - PRACTICAL ASPECTS OF MALARIA EPIDEMIOLOGY AND CONTROL	USA	4	1409.00	1409	C

VECTOR BIOLOGY AND CONTROL PROJECT ACTIVITIES

SEPTEMBER 1985 - MAY 1988

ACTIVITY #	QUARTER	DESCRIPTION	COUNTRY	PERSON DAYS	BUDGET	ACTUAL TO DATE	STATUS
PA-031-3	11	SUB CONTRACT JOHNS HOPKINS CONTINUED ONCHOCERCIABIS WORK IN LIBERIA	LIBERIA	0	0.00	0	A
*** Total ***				5919	3866680.00	2532319	

TABLE 4

VECTOR BIOLOGY & CONTROL PROJECT ACTIVITIES
(by country)
September 1, 1985 - May 15, 1988

AFRICAN BUREAU

Country	# Activities	# Person Days (Budget)	Budget (US$)	Actual to Date (US$)
Burkina Faso	1	15	1,134	1,134
Cameroon	3	69	50,837	525
Chad	1	52	51,185	30,064
Ivory Coast	1	78	42,843	43,198
Kenya	3	193	91,416	39,040
Nigeria	2	78	29,814	32,698
Swaziland	1	31	12,423	13,044
Tanzania/Zanzibar	2	75	30,894	30,945
Liberia	1	36	11,265	12,248
Regional	4	139	41,024	33,947
TOTAL	19	766	$371,735	$236,793

ASIA/NEAR EAST BUREAU

Country	# Activities	# Person Days (Budget)	Budget (US$)	Actual to Date (US$)
Burma	9	679	256,115	102,584
India	1	16	14,231	10,696
Indonesia	3	113	43,916	43,066
Nepal	10	234	14,709	110,345
Pakistan	6	154	49,935	53,563
PNG	2	52	39,755	6,417
Philippines	1	9	4,150	4,358
Sri Lanka	4	382	199,981	67,792
Thailand	3	101	44,284	45,011
Egypt	5	1378	754,420	420,746
Morocco	1	3	1,168	1,168
Regional	1	28	14,452	10,744
TOTAL	45	3149	$1,541,379	$876,490

LATIN AMERICAN/CARIBBEAN BUREAU

Country	# Activities	# Person Days (Budget)	Budget (US$)	Actual to Date (US$)
Belize	1	43	18,000	16,615
Bolivia	4	200	79,538	51,099
Dominican Republic	3	65	46,795	34,187
Ecuador	14	732	303,310	220,794
El Salvador	3	374	240,944	93,629
Guatemala	5	39	12,571	16,734
Haiti	3	118	39,662	44,862
Honduras	3	114	45,417	20,410
Mexico	4	25	9,383	6,703
Regional	4	162	76,831	36,262
TOTAL	44	1872	$872,451	$541,295

TABLE 5

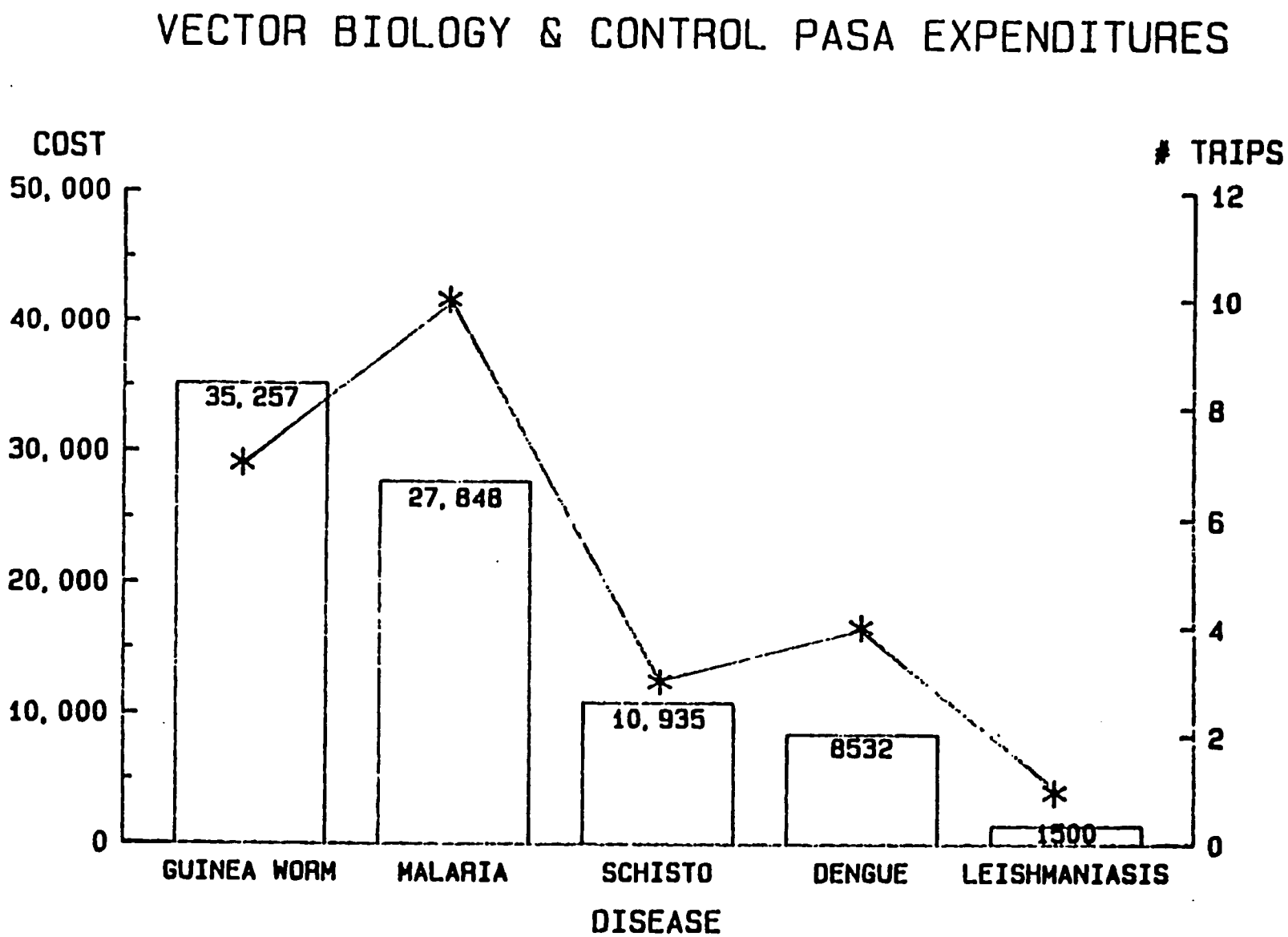
A.I.D. CONTRACT NUMBER DPE-5948-c-00-5044-00
VECTOR BIOLOGY & CONTROL PROJECT

Buy-in/Central Funds

TOTAL CUMULATE OBLIGATION June 1, 1988			$6,840,807
BUY-IN'S BY COUNTRY			
BELIZE		$16,665	
BURMA	$135,000 100,000 4,000 70,000		
Total Burma		309,000	
BOLIVIA		60,000	
CAMEROON		40,700	
ECUADOR	$ 45,301 38,256 48,000 14,154 78,465		
Total Ecuador		224,176	
EL SALVADOR		235,041	
EGYPT		469,335	
HONDURAS		40,000	
NEPAL		30,000	
PAKISTAN		21,870	
SRI LANKA		148,958	
TANZANIA	$ 14,090 20,000		
Total Tanzania/Zanzibar		34,090	
TOTAL ALL BUY IN'S AS OF JUNE 1, 1988			$1,629,835
TOTAL CENTRAL FUNDS OBLIGATION			$5,210,972

Per Cent Buy-in's to Obligated Central Funds. 31.28%
Per Cent Buy-in's to Total Contact Award 18.93%

FIGURE 1


VECTOR BIOLOGY & CONTROL PASA EXPENDITURES
COST
50,000
40,000
30,000
20,000
10,000
0
TRIPS
12
10
8
6
4
2
0
35,257
27,848
10,935
8532
1500
GUINEA WORM
MALARIA
SCHISTO
DENGUE
LEISHMANIASIS
DISEASE

APPENDIX 2

Evaluation
Team
Terms of Reference
Contacts
Documents Reviewed

Team Composition:

Richard H. Baker, Ph.D.
Professor and Director
Florida Medical Entomology Laboratory
University of Florida, Vero Beach, Florida

John H. Cross, Ph.D.
Professor
Division of Tropical Public Health
Department of Preventive Medicine and Biometrics
Uniformed Services University of the Health Sciences
Bethesda, Maryland

Patricia Sue Gibson, MSPH
Deputy Director
Division of Health, Population and Nutrition
Office of Technical Resources
Asia and Near East Bureau (ANE/TR/HPN)
Agency for International Development

Mary Lou Higgins, Ph.D.

APPENDIX A

OUTLINE OF BASIC PROJECT IDENTIFICATION DATA

1. Country: World Wide

2. Project Title: Vector Biology and Control Project

3. Project Number: 936 5948

4. Project Dates:

   a. First Project Agreement:
   b. Final Obligation Date: FY-- (planned/actual?) FY-94
   c. Most recent Project Assistance Completion Date (PACD):

5. Project Funding: (amounts obligated to date in dollars or dollar equivalents from the following sources)

a.	A.I.D. Bilateral Funding (grant and/or loan)	US$8,500.000
b.	Other Major Donors	US$ 0
c.	Host Country Counterpart Funds	US$ 0
	Total	US$8,500.000

6. Mode of Implementation: (host country or A.I.D. direct contractor Include name of contractor)
   Medical Services Consultants Inc.

7. Project Designers: (organizational names of those involved in th design of the project, e.g., the Government of Sri Lanka, USAID/Colombo, and the International Science and Technology Institute [ISTI]). Science and Technology/Health

8. Responsible Mission Officials: (for the full life of the project

   a. Mission Director(s): John Austin
   b. Project Officer(s): Clive Shiff

9. Previous Evaluation(s): Management Review 1985

APPENDIX B

VECTOR BIOLOGY AND CONTROL PROJECT (VBC)

MID-TERM FORMATIVE EVALUATION.

BACKGROUND

PRAGMA is requested to provide the services of a team of specialists to participate in the evaluation of the Vector Biology and Control project (VBC).

The team will be charged with reviewing and evaluating the administrative, managerial, informational, institutional building and technical aspects of the VBC Project. It will adhere to the guidelines in the A.I.D. Evaluation Handbook.

ARTICLE I

Mid-project Formative Evaluation, the Vector Biology and Control Project.

ARTICLE II OBJECTIVE

The numbers of individuals on the team is flexible, but the total effort should not exceed 9 person weeks. The contract team will be joined by one A.I.D. direct hire staff member for the duration of the assignment. All participants will be approved by the Cognizant Technical Officer of the project. The team will evaluate the VBC Project and make recommendations to S&T/H according to the attached scope of work. The team will submit a draft report in writing prior to a debriefing which will be held during the last week of the Evaluation. The final report should be submitted within 10 working days of the debriefing.

ARTICLE III - STATEMENT OF WORK

GOALS

1. To evaluate the accomplishments of the VBC Project, up to the time of the evaluation, in relation to specific items in the contract agreement, namely:

   a. Reports/Deliverables (Section B.1, pp 3-4).

   b. Project Technical Reports (Section B.2, pp 4-5).

   c. Goal and Objective (Section C. B. pp 11-12).

   d. Scope of Work (Section C. C. pp 12-26).

   e. Evaluation (Section E. pp 27-28).

2. To ascertain the role of the VBC Project in supporting AID activities in vector borne disease control and in advancing USAID country development health strategies.

3. To assess the effectiveness of the VBC Project in providing relevant information to Bureaus and Missions.

4. To prepare a set of recommendations for S&T/H relating to:

a. Appropriateness of the current S&T/H management of VBC.

b. The VBC Scope of Work and its effectiveness in serving A.I.D. needs.

c. Future emphasis in VBC activities to improve working relationships with other entities (inside and outside A.I.D.) and to enhance its impact on the control of vector borne diseases.

d. Procedures for A.I.D. to ensure the maintenance and utilization of the informational and professional resource being developed by the VBC project.

e. To assess the advisability of continuing the VBC effort and to make recommendations for strengthening the project design.

CONTRACTOR: SCOPE OF WORK

1. The Contractor is requested to contract, coordinate and support the services of a team of non AID persons and one AID person to participate in the evaluation.

2. The team will be responsible for preparing an evaluation report, addressing items in the following Evaluators Scope of Work and any other items added in consultation with the VBC CTO during the evaluation process.

3. The team will meet in the Washington area for a two-day planning meeting to organize the evaluation process, to make assignments and clarify the S.O.W. , review background, set up an action plan to conduct the evaluation (e.g. whom to meet, when to meet, questions to ask, team meeting times, etc.) and draft an outline of the report's contents. The contractor will select a person qualified to conduct the team planning meeting in collaboration with the CTO, who will also approve the action plan. Assignments will be made for each section of the report and the amount of time required for collecting and analyzing information, writing and finalizing the report.

4. There are no overseas trips envisaged in the action plan and it is anticipated that considerable use will be made of telephone communications which should be provided for in an adequate manner. Contacts with Mission Health Officers and interested parties will be done by phone and cable. The

Contractor will draft all cables using appropriate format with OCR typeface and AID cable specifications. and prepare material for dispatch.

5. Action plan will include interviews with AID personnel, particularly technical resource staff at regional bureaus and missions as well as management and contracts;, Consultants to and sub-contractors of the VBC project, PAHO, WHO and CDC staff, Peace Corps, Mission Contract and PVO personnel where appropriate.

A questionaire will be sent to USAID's and responsible Mission Officers who have utilized the VBC services. Responses from Missions will indicate the opinions of the Health Officers, other interested staff, and 'in country' users. The team will be expected to follow up the questionaire with telephone interviews.

6. The team should be composed of persons with experience in:

a. Medical entomology and/ or vector biology.

b. Public health with particular emphasis on vector borne disease.

c. Health orientated information systems and data management.

d. Institutional and human resource development

e. A.I.D. project and contract management, collaboration within and without the Agency. (Headquarters, field, buy-ins, office management, report preparation, etc.).

These persons will be selected in collaboration with the VBC CTO, and with his concurrence.

7. The Contractor will be responsible for all production services viz. contracting, typing and reproduction of the evaluation report and making arrangements for relevant communications. In addition, the Contractor will handle all travel arrangements. The A.I.D. member will not travel.

EVALUATORS SCOPE OF WORK AND TEAM CAPABILITIES

1. Major Areas of Coverage include:

a. A.I.D. project and contract management: Experience is required with all aspects of managing centrally-funded projects and/or managing projects in the field. Requires familiarity with the use of sub-contractors and consultants, office management, report preparation, buy-ins, evaluation of malaria and other vector borne disease projects.

b. Project Collaboration: Experience with collaboration

between A.I.D. projects within A.I.D. (i.e., with Bureaus, other offices,), or external collaboration with international agencies, C.D.C. etc.

c. Technical aspects of Vector Borne Diseases and their Control: Experience with technical issues concerning the biology of insects, molluscs and other vectors of tropical disease with particular emphasis on vector borne disease control.

d. Institutional and Human Resource Development: Experience with concepts, issues and application of institutional development and human resource development. Includes experience in training, particularly specific issues such as vector biology, entomology as well as community participation.

e. Library and Information Systems: The use of computers for operational management and improvement of surveillance systems. Experience with information systems. Includes familiarity with use of computers, preparation and use of specialist data bases.

f. Service Potential: S&T/H ability to respond to Mission and Bureau requests for technical; assistance; project development, implementation and evaluation; instructional and human resource types of services with and without a VBC type of service.

2. DESIGN AND MANAGEMENT ISSUES

a. General:

- Has the design of the VBC project as presented in the RFP proved to be appropriate ?
- Have the log-frame assumptions been shown to be valid ?
- Are the original objectives attainable and appropriate?
- Have the project actities supported the AID Health strategy ?
- Are changes in the VBC mandate indicated ?
- Are the staffing and budget of the VBC project adequate to cope with AID needs and demands ?

b. Scope of VBC Activities:

- Is there an appropriate balance between the key areas of the VBC activities as indicated in the project paper ?

- Do the recipients of VBC services regard them as appropriate, of high quality and delivered in a timely manner ?

- Does the VBC adequately serve the Agency needs for longterm institutional memory and capitalization on lessons learned ?

- Is there an appropriate balance between Reactive, Proactive and Collaborative activities ?

c. VBC Management:

- Is the VBC managed effectively ?

- Are VBC activity costs reasonable and in proportion to general core and administrative costs ?

- Are VBC activities tracked in an efficient manner ?

- Is VBC approach to acceptance, implementation and tracking of buy-ins appropriate ?

- Is VBC staff adequate in terms of numbers, balance and technical/managerial capability ?

- Is the role of the VBC University sub-contractors appropriate and facilitative ?

- Are VBC reports and responses to requests adequate and timely ?

- Does VBC make appropriate use of resources available to them ? (e.g. consultants, sub-contractors, PASA's, grants and staff members)

- Does VBC maintain good liason with Regional Bureaus, Missions, and other AID and non AID organizations, WHO, PAHO, CDC ?

- Is VBC adequately supported by the parent company, MSCI ?

d. S&T/H and VBC relationships:

- Is the degree of managerial support and direction to VBC by S&T/H appropriate ?

- Is there an effective degree of technical interchange between S&T/H and VBC ?

- Are essential communication links between VBC and Missions adequately facilitated by S&T/H ?

- Does S&T/H adequately participate in VBC meetings, activity selection and project monitoring ?

- Is the information flow from VBC to S&T/H adequate for effective management and project direction ?

e. Other components of the VBC project

- How effectively does the CDC PASA serve the overall needs of the project ?

- How effective is the relationship between the project and VBC/WHO as serviced by the VBC project grant ?

3. TECHNICAL AND SERVICE ISSUES

a. Technical Assistance:

- What is the effectiveness and success of VBC activities should changes in emphasis be considered ?

- Has technical assistance been appropriate and useful?

b. Community Participation and Health Education:

- To what extent has VBC encouraged this approach in an attempt to encourage sustainability of activities ?

  Should change of emphasis be considered ?

c. Institutional and Human Resource Development:

- What is the success and extent of these activities ?

- Should any changes in emphasis be considered.

- How has VBC enabled Missions to cope better with problems of vector borne diseases, particularly those which impact on child survival ?

d. Project Identification and Development:

- What has been the role of VBC in the development of Project Identification Documents (PID) and Project Papers (PP) by Bureaus and Missions. What has been the reception of this activity by Bureaus and Missions ?

4. RESOURCE ALLOCATION ISSUES

a. Distribution of VBC Resources:

- Evaluate the distribution and balance of VBC resources between Bureaus, Missions, and program areas.

  What is the relationship with other international reference centers ?

- What has VBC initiated to serve the professional Community concerned with control of vector borne disease

b. Intra-A.I.D. Funding Participation:

- Evaluate appropriateness and feasibility of VBC funding by other Bureaus and by USAID Missions.

- How much has the buy-in mechanism been used ? What changes would help them in using it ?

ARTICLE IV - REPORTS

As indicated in the scope of work a draft report should be presented to S&T/H prior to the debriefing, which will be held during the final week of the evaluation. The final report will be submitted to S&T/H 10 working days after the debriefing.

ARTICLE V - RELATIONSHIPS AND RESPONSIBILITIES:

The A.I.D. Representative will be the team leader. Other responsibilities will be allocated as appropriate with experience, and with the concurrence of the cognizant technical officer.

ARTICLE VI - PERFORMANCE PERIOD

The evaluation will take place during the period 21 March - 10 April.

ARTICLE VII- WORK DAYS ORDERED

Position	work days
Vector Biologist/ Public Health	17
Data Management/Human Resourse Devel.	15
A.I.D. Project/Contract Management	15
Secretarial	10

ARTICLE VIII - AID ILLUSTRATIVE BUDGET

PROPOSED BUDGET

Estimate of Costs

1. Consultants:

APPENDIX C

People contacted during the course of this evaluation:

VBC

Dr. Robert Lennox
Dr. Andrew Arata
Dr. Lawrence Lacey
Dr. Barry Silverman
Dr. Michael MacDonald
Dr. Iona Auston
Dr. Audrey Pinto

AID

LAC: Ms. Paula Feeney, James Hester
Ms. Julie Klement, Dr. John Wilson
AFR: (Attempts were made to contact Dr. James Sheppard)
ANE: Ms. Sue Gibson
ST/H: Dr. Ken Bart
Mr. John Austin
Dr. Clive Shiff
Dr. Dennis Long
PPC/CDIW/DI: Ms. Ruth Mara
USAID/Port-au-Prince: Mike Nelson
USAID/REDSO/EA: Victor Barbiero
USAID/Quito: B. Goldman
I. Barriza

Sub-contractors

Tulane University: Dr. Barney Cline (attempts were made to contact Dr. Antonio D'Alessandro)
Harvard University: Dr. Andrew Spielman
Johns Hopkin University: - was eventually contacted
- get complete names

CDC

Dr. Robert Kaiser
Ms. Mixon
Dr. Fred Churchill
Dr. Harrison Spencer
Dr. Campbell
Dr. Frank Collins

WHO

Dr. Norman Gratz
Dr. J. Najara-Morrando
Dr. S. Litsios
(Attempts were made to contact Dr. R. Sloof)

PAHO

(Attempts were made to contact F. Lopez-Antunano)

Peace Corps

(Attempts were made to contact Ms. Colleen Conroy)

REDSO/FA

(Attempts were made to contact Dr. Victor Barbiero)

WASH

Mr. Dan Campbell

Control Data Corp

Ms. Anne Ortelle

LISTS OF DOCUMENTS REVIEWED BY VBC EVALUATION TEAM

In addition to the Project Paper and Contract:

- VBC PROJECT STATUS REPORT, Sept. 1, 1985 - May 15, 1988 (Draft)
- VBC PROJECT ANNUAL REPORT, Sept. 1, 1985 - Aug. 31, 1986
- FIRST ANNUAL MANAGEMENT REVIEW of THE VBC PROJECT (November 1986)
- Proposed VBC Project Long-Range Strategy (November 1987)
- COMPUTERIZATION OF MALARIA DATA SYSTEM/ECUADOR
  Part I: March 8-19, 1987
  Part II: May - October 1987
  Summary of Activities/Ecuador Jan. 19 - Feb. 10, 1988
- NEPAL: MALARIA DATA SYSTEM
  Plus Internal Documents:
  - VBCNET CODING SCHEME/MANUAL
  - VBCTRAC CODING SCHEME/MANUAL
  - VBCINFO CODING SCHEME/MANUAL
  - VBC STYLE GUIDE

Plus internal records, files and memos including:

- Technical assistance for Community Participation
- Long-Term Plan for Vector Resistance to Insecticides
- Training for SNEM/Ecuador in of Pesticides
- Malaria Health System Support
- Plan WHO/PAHO Activity on Regional Insecticides Resistance
- Malaria Control External Review
- Participate in National (GOH) Malaria Control Reviews
- Amendment to Project Paper on Malaria Control
- Increased Productivity Through Better Health (505-0018)
- Determine Susceptibility of Vectors to DDT
- View of Vector Control Programs
- Four Proposal Malaria Control Activities (518-0049)

AEDES Control in Guayaquil (518-0049)

Computerization of Malaria Data System (518-0049)

First Evaluation of Malaria Project (518-0049)

Computerization of Malaria Data Systems

EPA - Sri Lanka Containing Malathion Fire in GSOL/AMC Warehouse

Workshop in Aedes - Burma Epidemics in the Caribbean

Training - Mosquito Control for Peace Corps Volunteer

Pilot Study on Community Participation in Malaria Control

Medical Entomology Course for assistant Entomologists

Design of Medical Entomology Curriculum

Aedes - borne Epidemic Workshop, Barbados, May 11-15, 1987

APPENDIX D

Documents and reports consulted:

AID Project Paper: Vector Biology and Control Project, Project Number (936-5948), Health Sector Council Review April 4, 1985.

AID Vector-Borne Disease Control Strategy (Draft #5 12/31/87).

Award Contract dated 8/30/85. Contract No. DPE 5948-C-00-5044-00

Vector Biology and Control Project. Status Report September 1, 1985 - May 15, 1988.

Curriculum Vitae: Andrew A. Arata; Ione C. Auston, Lawrence A. Lacey, Robert Lennox, Ralph Schmidt, Barry A. Silverman, A. Dennis Long, Clive Shiff.

VBC-PASA Review, Background and Issues.

First Annual Management Review of the Vector Biology and Control Project, November 1986.

Letters from Harvard University, March 21, 1988; and Tulane University, March 3, 1988; re: collaborative proactive projects.

Proposal: Vector Biology and Control Project Long-Range Strategy.

Vector Biology and Control Project Annual Report, September 1, 1985 - August 31, 1986.

Vector Blackfly Survey in the Uniroyal Rubber Plantation at the Liberian Agricultural Company - 1986.

Vector Biology and Control Project Annual Report, September 1, 1987 - August 31, 1988.

Excerpts from the Health Sector Assessment Prepared for USAID/Guatemala December 1986.

Dracunculiasis in the United republic of Cameroon I: A proposal for a national plan of action for Dracunculiasis control and elimination.

Dracunculiasis in the United Republic of Cameroon II: Background/Reference Information, July 7 - August 15, 1986.

Final Report. Survey on Onchocerciasis in Cote d'Ivoire, October 23 - November 27, 1987.

Malaria in Nepal: Observations During a Short-Term Entomological Consultancy, August 19 - September 12, 1986.

Malaria in Nepal: Development of a Detail Working Plan for Entomological Research in Sindhuli (Central Region) and Kanchanpar (Far Western Region) Districts with comments on Japanese encephalitis, March 1987.

Trip Report. Nepal: Malaria, Data System, November 6-17, 1987.

Evaluation of Operations and Annual Research Needs of the Anti-Malaria program in Thailand, 1986.

Timor Malaria Control Project, Indonesia Project No. 497-0326. Report of trial Assessment, August 31 - September 28, 1987.

Proposed vector Biology and Control Project/USAID Activities in Colombo, Sri Lanka (198[illegible]-1990).

Implementation of Operational Field Trials on Community Based Malaria Control in West Timor, N.T.T. Province, Indonesia.

Trip Report. Feasibility of Using Community Based Malaria Control in West Timor, Indonesia.

Scope of Work for Project Analysis and Design Team Schistosomiasis Component, Science and Technology for Development Project, USAID/Egypt, November 11, 1986.

Schistosomiasis Research Projects, Project Paper Draft, November 18, 1987, USAID/Cairo.

Schistosomiasis, by John I. Bruce.

Master Activity List, September 1, 1985 - May 24, 1988.

Notes from Technical Advisory Group (TAG) Meetings: July 22-23, 1986; and September 1-2, 1987.

Notes from Technical Advisory Committee (TAC) Meetings: January 13-14, 1986; July 21, 1986; and January 28, 1988.

List of consultants.